COUNTWAY LIBRARY
HC 44CW

Digitized by the Internet Archive
in 2017 with funding from
The National Endowment for the Humanities and the Arcadia Fund

https://archive.org/details/marylandmedical4419unse_0

BALTIMORE, MD. WASHINGTON, D. C.

MARYLAND MEDICAL JOURNAL

A JOURNAL OF MEDICINE AND SURGERY

VOLUME XLIV

DECEMBER 30, 1900—DECEMBER 31, 1901

BALTIMORE:
MARYLAND MEDICAL JOURNAL
FIDELITY BUILDING
1901

CONTRIBUTORS TO VOLUME XLIV.

	PAGE
Abbott, Dr. A. C.	447
Allen, Dr. L. M.	187, 416
Amberg, Dr. Samuel	93
Atkinson, Dr. A. D.	281
Bispham, Dr. W. H.	166
Bloodgood, Dr. Joseph C.	367
Brown, Dr. T. R.	1, 60, 109, 147, 154, 195, 234, 291, 384, 422, 469, 504
Buckler, Dr. H. Warren	348
Cordell, Dr. Eugene F.	409
Flick, Dr. Lawrence	339
Fulton, Dr. John S.	487
Henry, Dr. Fred P.	237
Hirsh, Dr. Jose L.	23, 73, 295, 353, 429, 465, 516
Humrichouse, Dr. J. W.	193
Jacobs, Dr. H. Barton	97, 494
Jones, Dr. C. Hampson	345
Knopf, Dr. S. A.	325
Milholland, Dr. A. V.	252
Mitchell, Dr. Chas. W.	13
Reik, Dr. H. O.	10
Reuling, Dr. Robert	110, 202, 510
Ruhrah, Dr. John	189
Russell, Dr. E. J.	38
Smith, Dr. Henry Lee	141
Stokes, Dr. Wm. R.	487
Taylor, Dr. L. George	289
Walker, Dr. George	55, 108
Warren, Dr. J. Collins	45
Young, Dr. Hugh H.	17, 69, 114, 132, 160, 210, 258, 301, 390, 470, 456, 522
Zahorsky, Dr. John	150

BOSTON MEDICAL LIBRARY AUG 1902

CATALOGUED AUG 1902 E. H. B.

INDEX TO VOLUME XLIV.

	PAGE
Abdomen, Contusions of the	260
Abdominal Cavity and Its Contents, Sensibility of the	160
Abortionist Punished, An	90
Abscess, Pulmonary	525
Alcoholic Intemperance, The Medical Profession and	277
Amyloid Tumor, with Metastases	519
Anatomy of Pulmonary Gangrene, The Etiology and Pathological	74
Anemia, Severe	215
Anemia in Typhoid Fever	464
Anesthetics, Report of the British Medical Association's Committee on	294
Anesthesia, Spinal	226
Anesthesia, Spinal, Selection and Sterilization of Cocaine Muriate for	392
Anesthesia When Respiratory Impediment Exists	70
Aneurism, Popliteal	269
Aneurism or Mediastinal Tumor, Tracheal Tugging as a Sign of	386
Aneurism, Treatment of, by Gelatine Injections	386
Antityphoid Inoculations	425, 463
Apex Pneumonia, The Significance of	409
Appendicitis as a Sequela in Some General Diseases	389
Appendicitis, Mortality of	526
Appendicitis, The Rôle of Intestinal Worms in the Causation of	405
Arsenic Poisoning by Beer	40
Aspergillus Keratitis	353
Assassin, The	444
Bacillus of Chancroid, Culture of the	71
Bacteria in the City Milk	255
Bacteria, The Demonstration of a Capsule in All Varieties of	74
Bacteria, Treatment of Constipation by the Administration of	294
Bactericidal Serums	521
Beer, Lead Poisoning by	42
Benzin Poisoning	510
Bilateral Resection of the Superior Cervical Ganglion of the Sympathetic for Glaucoma	20
Bile, The Bactericidal Action of	387
Blood Examinations as an Aid to Surgical Diagnosis	367
British Medical Association's Committee on Anesthetics	294
Bromoform in Whooping Cough	25
Bubonic Plague	427
Calculi, Prostatic	258
Cancer, Etiology of	305
Cancer in Buffalo; the Parasitic Theory	384
Cancer, Inoperable, Treatment with Mixed Toxins	291
Cancer of the Breast, Medical Aspects of	397
Cancer of the Larynx, Diagnosis and Treatment of	165
Cancer of the Rectum, High-Seated	524
Capsule in All Varieties of Bacteria, The Demonstration of a	74
Carcinoma of the Pancreas, Primary	72
Cholelithiasis Showing Pure Culture of Typhoid Bacilli Without Antecedent Typhoid Fever, A Case of	13
Chorea in the Adult	270
Chronic Cystitis Due to Bacillus Typhosus—Report of a Case of Seven Years' Duration	456
Chronic Posterior Urethritis, Curetting the Urethra in the Treatment of	108
City Milk, Bacteria in	255
Clinical Society, The Passing of the	484
Clinical Thermometers, Bacteriologic Examination	353
Cocaine Muriate for Spinal Anesthesia, Selection and Sterilization of	392
Colon Bacillus, The Toxin of	256
Constipation, Treatment of, by the Administration of Bacteria	294
Consumption in Local Sanatoria, The Treatment of	495
Consumptive Wage-Earner, The	362
Contusions of the Abdomen	260
Danysz Microbe for the Destruction of Rats, Value of	515
Diabetes Associated with Pancreatic Diseases	217
Diabetes Mellitus in Children	25
Diagnosis with the Aid of the x-Ray, Surgical	266
Dislocation of the Astragalus	220
Dysenteries, Tropical	422
Dysentery, The Saline Treatment of	423
Dysentery, The Specific Treatment of	424

PAGE

Eclampsia, Puerperal 433
Ectokelostomy 114
Endothelioma of the Pulmonary Vein ... 356
Enteroptosis 426
Epidermolysis Bullosa Hereditaria, with Report of the First Case of the Disease in the Negro Race 141
Epidermolysis Bullosa, Notes on the Blood and Vesicle Cells in Dr. Smith's Case of 147
Epileptiform Neuralgia, Excision of the Gasserian Ganglion for 22
Epithelioma of the Larynx 29
Ethyl-Chloride Narcosis 387
Fetus with Hydroperitoneum, Requiring an Operation Before Delivery Was Possible, Spontaneous Version 289
Filariasis 19
Formaldehyde as a Food Preservative .. 364
Fracture of the Patella 223
Frick Library, Accessions to 230, 481
Gallstones and Fat Necrosis 522
Gallstones, A Rapid and Simple Operation for 115
Gallstones in the United States 216
Gallstone, with Pernicious Anemia 227
Gangrene, Pulmonary, The Etiology and Pathological Anatomy of 74
Gastrostomy 268
Gelatine Injections, Treatment of Aneurism by 386
Glaucoma, Bilateral Resection of the Superior Cervical Ganglion of the Sympathetic for 20
Goitre 221
Goitre, Eight Cases in One Family 93
Dr. Gould, The Retirement of 89
Heart Disease, Congenital 518
Heart Muscle in Various Diseases, Changes in the 254
Hepatic Cirrhosis, Experimental 354
Hernia in Early Infancy 116
Herpes Zoster, The Pathology of 119
Hospital Commission Balked by the City Council, The 482
Hospitals, Spanish 166
Hydrocyanic-Acid Gas in Public Health Work 487
Hygiene 510
Icterus Neonatorum 520
Ileus, The Surgical Aspects of 210
Indigent Tuberculous, Care of the 348
Infant-Feeding, The Principles of 300
Infant, Hemorrhagic Infection of, Due to the Typhoid Bacillus 73
Inoculations, Antityphoid 88
Intestinal Worms in the Causation of Appendicitis, The Rôle of 405
Jews, Comparative Pathology of the 384
Dr. Keen's Reply to the American Humane Society 113
Koch's Address on Tuberculosis 430
Koplik's Spots: Their Value in the Diagnosis of Measles, Particularly in Private Practice 150
Larynx, Epithelioma of the 29
Lead Poisoning by Beer 42
Leucocyte Production, Relation of Bone-Marrow to 516
Leukemia, Acute, in Childhood 23
Library of the State Faculty, Accessions to the 230, 481

PAGE

Ligation of the Carotid as a Preliminary to Resecting the Superior Maxilla 263
Lobar Pneumonia, The Prospect in the Treatment of 1
Loose Kidneys, Fixation of 164
Lung Affections After Operations 69
Lympho-Sarcoma 354
Malignant Disease in Early Infant Life, Unusual Case of 23
Marriage, The Regulation of 234
Mastoid Operation, The Blood-Clot Method of 266
Measles, A New Symptom During the Period of Incubation 27
Measles Combined with Pemphigus 429
Meat Inspection in Maryland 137
Medical and Chirurgical Faculty, The 136
Medical Cases 272
Medical Profession and Alcoholic Intemperance 277
Medicine 254, 291, 384, 422, 460, 504
Medicine, Advances in Preventive 447
Medicine, Sectarian, The Decline of 320
Memorial to a Country Doctor, A 321
Menstruation, Precocious 38
Migraine, Ophthalmoplegic, A Case of .. 121
Milk and Milk Products in the Transmission of Tuberculosis 209
Mixed Toxins, Treatment of Inoperable Cancer with 291
Molluscum Contagiosum 220
Mortality, The Census Statistics of 442
Multiple Sclerosis, The Differential Diagnosis of 122
Mycosis Tonsillaris 152
Myocarditis and Arterial Disease 207
Nephrectomy 220
Nephritis, Chronic, Heredity of 518
Nerve Suture 301
Neurology 119
New Growths of the Stomach, Non-Cancerous 69
Nitrites in the Treatment of Syphilis 116
Notification, Some of the Burdens of 233
Omental Torsion, Intra-Abdominal 17
Operating Table for Office Work 132
Operations for Thyroid Tumors, Results of 117
Operations, Lung Affections After 69
Otological Cases, Exhibition of 28
Osteitis Deformans 281
Pancreas, Primary Carcinoma of the 72
Pancreatic Diseases, Diabetes Associated with 217
Pancreatitis 301
Pancreatitis, Interstitial, The Relations of, to the Islands of Langerhans, and to Diabetes Mellitus 204
Pathology and Bacteriology 73, 202, 353, 429, 516
Parasitic Theory, The; Cancer in Buffalo. 384
Pediatrics 23, 295, 465
Peliosis Rheumatica 296
Perforation in Typhoid Fever, The Careful Study of Symptoms of 162
Peritonitis, The Causes of Death in, Due to Perforation 389
Poisoning by Beer, Arsenic 40
Poisoning, Benzin 510

PAGE

Polypus Presenting in the Pharynx, An Unusually Large 252
Pregnancy at the Age of Eleven Years Terminating in Natural Delivery 416
Pregnancy in a Double Uterus 187
President McKinley and His Surgeons .. 444
Profession and the Lawmakers, The ... 536
Public Health Work, Hydrocyanic-Acid Gas in 487
Public Schools, Physiology and Hygiene in the 276
Puerperal Eclampsia, Causation of 403
Pyelonephritis in Children 297
Physiology and Pathology of the Blood, A Review of Some of the Recent Work on the 60, 109, 154, 195
Rabies and the Pasteur Preventive Treatment in Germany 189
Rats, Value of Danysz Microbe for the Destruction of 515
Reforestation of the Watershed 42
Reminiscences of an Old New England Surgeon 45
Resecting the Superior Maxilla, Ligation of the Carotid as a Preliminary to 263
Rheumatism, Etiology of 519
Rötheln, Its Differentiation from Scarlet Fever and Measles 26
Scurvy, Infantile 299
Seminal Vesiculitis, Chronic, Observations in 390
Senilis Chorea 257
Sero-Fibrinous Peritonitis and Other Rare Complications of Typhoid Fever. 462
Sewage of Baltimore, The 278
Smallpox in 1902 404
Spinal Cord, Diffuse Degeneration of the 122, 202
Spleen, Surgery of the 303
Splenectomy 218
Sponges, A New and Simple Method of Sterilizing 117
Sporadic Cretinism, Four Cases of 97
Society, Italian, for Studying Malaria ... 513
Stenosis of the Pylorus, Congenital 295
Stomach, Non-Cancerous New Growths of the 69
Streptothrix Pathological to Man, A 208
Superheated Air, Treatment of Sciatica, Arthritis Deformans and Scleroderma by 388
Suppuration in Typhoid Fever 387
Suppurative Otitis Media, The Value of Formaldehyde in the Treatment of 10
Surgery 17, 69, 114, 160, 210, 258, 301, 390, 470, 522
Surgical Cases 271
Syphilis of the Stomach, Congenital 254
Syphilis, Nitrites in the Treatment of 116
Tabes Dorsalis, The Early Recognition of 292
Tabes Dorsalis in Negroes, Husband and Wife, Two Cases of 75
Teratoma of Thorax, Preservation of Frozen Sections 520
Tetanus, Post-Vaccination 538
Tetanus Treated with Antitoxin, A Case of 193
Therapeutic Use of the *x*-Rays, The 425
Three Surgeons, The Opera Minora of .. 90
Thoracic Duct, Wounds of 522
Tracheal Tugging as a Sign of Aneurism or Mediastinal Tumor 386

PAGE

Tuberculosis, Discussion on 357
Tuberculosis Experiments 536
Tuberculosis, Heredity of 510
Tuberculosis in Baltimore, The Distribution of 345
Tuberculosis, Koch's Address on 430
Tuberculosis, Notification of 183
Tuberculosis of the Pericardium, Primary 430
Tuberculosis of the Vesculae Seminales, Testes and Prostate; Cured by a Conservative Operation 55
Tuberculosis, Peritoneal, A Curious Form of 264
Tuberculosis, Registration of 232, 339
Tuberculosis, The Treatment of 504
Tuberculosis, Transmission of, by Milk and Milk Products 209
Tuberculosis, Treatment of, by Climate .. 429
Tuberculous Disease in Infancy and Childhood, The Prevention of 325
Tumors of the Testicle, Diagnosis of 71
Tumors, Thyroid, Results of Operations for 117
Typhoid Bacilli in an Ovarian Cyst 463
Typhoid Bacillus, Hemorrhagic Infection in an Infant Due to 73
Typhoid Bacillus, General Infection with. 462
Typhoid Bacteriuria Urotropin in 425
Typhoid Fever, Rapid Diagnosis of ..429, 460
Typhoid Fever, Sero-Fibrinous Peritonitis and Other Rare Complications of .. 462
Typhoid Fever, Suppuration in 387
Typhoid Fever, The Careful Study of Symptoms of Perforation in 162
Typhoid Infection from the Dead 463
Typhoid Spondylitis 464
Ulcer, Duodenal 300
Ulcer, Gastric, The Surgical Treatment of 164
Urinary Antiseptic, Urotropin 75
Urotropin in Typhoid Bacteriuria 425
Uterus, Lipomyoma of the 265
Utropin as a Urinary Antiseptic 75
Vaccinia and Variola, The Organism of. 182
Valescus De Tarenta, A Notice of the Life and Writings of 237
Van Gieson's Retirement, Dr 234
Verification of Deaths, One Reason for the 184
Water Department Quip, A 406
Whooping Cough 296
Whooping Cough, Bromoform in 25
Whooping Cough, Leucocytosis in 26
Widal Reaction in Children, The 298
Widal Reaction, Value and Limitations of 460
Widow on the Warpath, A Doctor's 136
Yellow Fever, Experimental Immunization Against 482

BOOK REVIEWS 35, 85, 135, 180, 230, 275, 319, 438, 478, 534
CLINICAL SOCIETY OF MARYLAND, THE 28, 80, 128, 171, 218, 266, 307, 357, 397, 433, 527
JOHNS HOPKINS MEDICAL SOCIETY, THE 30, 76, 125, 169, 215, 264, 305, 436, 475, 529
MEDICAL ITEMS 43, 91, 139, 185, 235, 279, 323, 365, 407, 445, 485, 539

BOSTON MEDICAL
AUG 19 1902
LIBRARY.

6538

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 1 BALTIMORE, JANUARY, 1901 Whole No. 992

THE PROSPECT IN THE TREATMENT OF LOBAR PNEUMONIA.

By Thomas R. Brown, M.D.,
Baltimore.

READ BEFORE THE CLINICAL SOCIETY OF MARYLAND, DECEMBER 7, 1900.

THERE is probably no disease of more immediate interest to every physician than lobar pneumonia, nor one in the treatment of which he feels more helpless.

The great number of cases dying annually from this disease is shown by the fact that, according to the United States Census Report for 1890, "more deaths are attributable to this disease than to any other, with the single exception of consumption."

And yet a consideration of the mortality statistics in this disease shows us definitely that the percentage of deaths has remained practically the same in all the decades during which careful hospital reports have been made and preserved.

It is before the grim immutability of these figures that the physician has been compelled to bow and to confess his helplessness in the one word "*nescio*." Modes of treatment have come, modes of treatment have gone; each has "abode its destined hour and gone its way," and yet by none with which any great series of cases has been treated has the mortality percentage been appreciably affected.

Are there no rifts in this cloud for us as we see our cases this winter, and is there not a ray of hope in the outlook for the treatment of pneumonia?

It will be impossible even to touch upon many of the myriad remedies recommended in this disease. Nothing shows better their ineffectiveness than an article by Weber (*Practitioner*, February, 1900), in which are discussed the various modes of treatment in use in Bonn and in London at the hospitals with which he was connected from 1846 to 1900: First bleeding, nitrate of pot-

ash and small doses of antimony tartrate; then very large doses of antimony tartrate; then the opium treatment; then moderate bleeding; then a saline method; then care and nursing alone; then large doses of quinine; then nursing again, alone or combined with small doses of antimony tartrate and liquor ammonii acetatis; then large doses of salicylate of soda—all these methods were employed, each over a considerable period of time, and the mortality rate was practically the same under each. No method seemed to influence in the least degree the duration of the disease or the tendency to relapse.

In discussing the modern treatment of pneumonia, therefore, we should not forget these failures of the past, and should attempt a line of treatment (or no treatment) in which the good should at least definitely outweigh the bad. We must also remember, in considering the treatment to be employed, that pneumonia is not a disease of the lungs alone, but a general toxemia with local manifestations in the lung, just as in typhoid the local manifestations are mainly confined to the intestinal tract, or in diphtheria to the nose and throat, although the disease in each case is also a general toxemia.

Thus, in discussing the treatment of pneumonia, we should consider, first, the possibility of neutralizing the toxin produced by the micro-organism of the disease, and secondly, provided the first method has not proven available, we must seek the best means of combatting the effects of this toxin upon the various organs and tissues of the body; in other words, first discuss the possibility of direct, and next of indirect or symptomatic, treatment.

I. The Possibility of Direct Treatment.

The great hope in the treatment of pneumonia during the past few years has been that a substance could be prepared which would neutralize or destroy the toxin formed by the pneumococcus (diplococcus pneumoniae) of Fränkel, Talamon and Netter, which recent work has shown to be the cause of lobar pneumonia in from 90 to 95 per cent. of all cases. The work of the Klemperer brothers gave promise of success from this side, as they were able to immunize rabbits against pneumococcus infections by the injection of bouillon or glycerin cultures of the micro-organism, and also showed that a cure could be obtained in cases suffering with a pneumococcus infection by injection of the serum or fluids of animals rendered immune, or of persons or animals after the crisis of pneumonia had been passed. This work was substantiated by Emmerich, Mennes, Foa, Carbone and Fowitzky. Pane, stimulated by this work, obtained by the usual method from a donkey and from a cow an antipneumococcus serum which he has employed in the treament of cases of pneumonia among human beings. His results and those of other Italian investigators have been favorable in the main, although they are too few in number

and too meager in regard to details of importance (such as the age of the patient, etc.) to warrant any definite conclusion. Pane treated with this serum twenty-three cases, with two deaths; Maragliano, five cases, with no deaths; Cantieri, seventeen cases, with two deaths; Caruso, Staginatta, Gamba, Marone, Fanoni, six cases, with no deaths. Washbourne obtained successful results in six cases treated with his serum, which was obtained from an immunized pony, while the Klemperers were also successful in six cases treated with their serum. To these must be added the successfully treated cases of Canby, Frey and Everhart, four in number, reported in the March number of this journal.

In these seventy-two cases treated by this method there were four deaths, a mortality of 5.5 per cent.

Lara, Massalongo and Franchini, Spurrel, Hartnett, Cook and Mennes have reported cases favorably treated by the antipneumococcus serum, while Wiesbecher reports five cases successfully treated by serum obtained from other patients after the crisis. Banti and Pieraccini, on the other hand, from their series of twenty-one cases concluded that the Pane serum is ineffective.

The interpretation of the results obtained is difficult, owing, in the first place, to the small number of cases so treated; in the second place, to the incompleteness in important details of the clinical histories of the individual cases, and in the third place, to the marked variations of virulence of the pneumococcus; but the positive results of animal experimentation and the outcome of the cases mentioned above should at least make us watch carefully the future work in this field, as the results obtained up to the present time, though in many respects unsatisfactory, are at least promising.

Everyone who has worked with this method insists upon the necessity of frequently repeating the inoculations, Washbourne advising the administration of 600 units twice daily. It is undeniable that, either *post hoc* or *propter hoc*, a marked decrease in temperature, pulse-rate and respiration-rate took place within from twelve to twenty-four hours after the injection in some of the individual cases, as notably the four reported in this journal.

II. The Symptomatic Treatment of Lobar Pneumonia.

The question of successfully combatting the toxin in pneumonia by an antitoxin being still in abeyance, let us consider whether there have been any advances of value in the symptomatic treatment of the disease. In the first place, it must be remembered that in the great majority of cases we have to fight not so much the throwing out of function of more or less of lung tissue, but a toxemia affecting especially the heart and cerebro-spinal apparatus, especially the cardiac centers.

It is, of course, needless here to reiterate the absolute necessity for increasing as far as possible the resisting power of the pa-

tient by careful nursing, the administration of carefully-selected and easily-assimilated food, the attention to all hygienic precautions and the admission of sufficient fresh air and sunshine. Many of the drugs recommended, digitalis in large doses, opium in great amount, tartrate of antimony, veratrum, etc., by disturbing the digestion and absorption of food, in many cases do infinitely more harm than the good that might arise from any stimulating, expectorant or hypnotic effect. Fortunately for the patients, the tendency in this country and in Germany towards the use of many drugs in the treatment of pneumonia is rapidly abating, and the physician is seeking other and more rational lines of treatment.

First and foremost of these is *hydrotherapy* and the use of *cold applications*. Stimulated by the brilliant results of the Brand treatment of typhoid fever, an increasing number of physicians are overcoming their prejudice against the use of cold water in pneumonia, and are using it more or less in the treatment of the disease, although Gilman Thompson in his "Practical Medicine," which has but recently appeared, vigorously opposes the use of cold baths in this disease.

A symposium in the January number of this journal gave the views upon this subject of twenty-one well-known clinicians—Drs. Atkinson, Baruch, Bowditch, Cutler, Eichberg, Fitz, Folsom, Forcheimer, Fowler, Hare, Janeway, Johnston, Lange, Mays, Musser, Rochester, Andrew Smith, Stockton, Stucky, Tyson and Wilson.

Seven regarded its use as "very valuable," nine as "valuable," four as "useful," and one as "unsatisfactory" (Eichberg).

The mode of application was: Ice-bags in the case of thirteen, cold wet compresses or cold packs approved by eight, cold sponging by five, and cold plunge or tub by six. The indications for its use are hyperpyrexia according to three, pain and delirium according to thirteen, embarrassment of heart or lungs according to seven, toxemia according to two. Baruch (*Medical Record*, August 4, 1900) believes that the object of the coldbath is fourfold—first, to fortify the nervous system; second, to sustain the heart; third, to hasten the elimination of noxious products, and fourth, to render the patient more comfortable by reducing high temperature, deepening inspiration and producing sleep. He prefers the use of wet compresses of temperature from 60° F. to 95° F., keeping them applied for a variable length of time. He also gives four to six ounces of cold water every four hours by mouth.

Romme reports in *La Presse Medicale* (May 26, 1900) that Marfan constantly employs cold or tepid baths for the treatment of pneumonia in children.

Among the Germans, von Jürgensen believes that the hydriatic treatment is the best means at our command for combatting cardiac weakness. Nothnagel also recommends hydrotherapy in this

disease, while Baümler believes that its most valuable action is that upon the vaso-motor nerves.

Pick has recently published an article of value in the *Blätter für klinische Hydrotherapie und verwandte Heilmethoden* (1900, Nos. 7 and 8) on the systematic use of cold in the treatment of pneumonia from the results in sixty cases of lobar pneumonia (besides numerous cases of lobular pneumonia which will not be considered here) so treated in the Garrison Hospital at Vienna. He employed either tub baths of temperature 80° F. to 86° F., the patient remaining from eight to ten minutes in the tub and being vigorously rubbed during all the bathing period, or, as this method is scarcely applicable in all cases in hospital, and especially private practice, partial bathing, a portion of the body either being sponged or covered with a cold cloth, which is agitated and reapplied three or four times, after which the portion of the body is dried, these latter methods being used especially in the more severe cases.

According to Pick, the determination of the blood pressure, counting of the pulse and determination of the rectal temperature before and after this treatment showed that the diminution in temperature is slight, but that the bath or sponging produces a striking improvement in the tension of the pulse and a decrease in its rate, and a marked improvement in the general condition of the patient, which manifests itself by a clearing of the mental condition, a better appetite and a cleaner tongue.

The baths were given from two to four times daily. Of the sixty cases so treated only four died, and of these two had an associated peritonitis, and one was a chronic drunkard.

The hydriatic treatment of pneumonia in Germany is, of course, no new thing, Richter in 1860 reporting forty-three cases which he had treated entirely by this method, with only two deaths, while Niemeyer recommended the method and Liebermeister approved of it at the hospital in Basel. The last-mentioned observer compared the mortality in pneumonia under various modes of treatment and with hydrotherapeutic treatment with the following results: The mortality of the cases treated, 700 in all, from 1837 to 1869 was 24.4 per cent., and of the 200 cases treated between 1863 and 1868, 27 per cent., while of the forty-five cases treated during this latter period by cold baths the mortality was but 8.8 per cent.

Fisner shows the diminution in the mortality of the hydriatically-treated cases at Basel since 1867. In none of the cases treated did the duration of the disease seem to be influenced in the least.

Of other modern means of stimulating the heart and warding off cardiac weakness *saline infusions* are certainly becoming more and more used. They are, of course, especially useful in those cases with faint heart sounds and small pulse, although the infusions seem also to exert a beneficial effect upon the toxemia, perhaps by

diluting the toxins, perhaps by stimulating diuresis. Osler recommends one to two pints subcutaneously when needed. The procedure is certainly a rational one, as it stimulates the heart, increases the secretion by the kidneys, increases the total quantity of fluid in the circulating blood, and possibly also increases the oxygen-carrying power of the blood.

Oxygen is always tried *in extremis*, but no author who has seen a great number of cases is enthusiastic over its use, and few seem to regard the oxygen-cylinder as more than a premonition of impending dissolution. It would, however, be interesting to see its effect in a series of cases where it was used systematically from early in the course of the disease, although it is rather difficult to see its value on purely physiological grounds.

The cough and bronchitis are probably as well treated by the various inhaling mixtures used by many physicians, such as creosote, turpentine, benzoin, etc., given in steam alone or with oxygen gas.

The use of drugs in pneumonia is undoubtedly decreasing among the German and American physicians. If stimulants are necessary, according to the views expressed in the majority of recent publications, *alcohol* is probably to be preferred, as it is rapidly diffusible, is also a food, and deranges the stomach but little. *Strychnine* seems next in importance in cases of impending heart-failure to tide over the critical period. *Digitalis* has undoubtedly been used much more than is justifiable. Pel especially condemns the continued use of large doses of this drug, as recommended by Petresco.

Eichhorst in Zürich has recently again insisted upon the efficacy of *bleeding*, and in some cases extremely good results are reported by him. Blood-letting is probably not used as much as it should be in the full-blooded sthenic cases.

Andrew Smith (*Medical News*, December 16, 1899) believes in the antimicrobic treatment, using *creosote* as his bactericidal agent, and calls attention to the successes reported by various observers in the treatment of pneumonia with calomel, chloroform and the salicylates. According to him, if creosote were taken immediately on catching cold, pneumonia might be prevented.

While the tendency in Germany and America seems to be more towards the abandonment of the routine use of drugs in the treatment of pneumonia, this tendency seems to have affected England little, if at all. In the January, February and March numbers of the *Practitioner* (1900) are articles on the treatment of pneumonia by Broadbent, Wilks, Weber, Dreschfeld and Philip, and the perusal of these teaches us that in England, at least, the therapeutic nihilist does not tread a path strewn with roses. In fact, the Englishman clings to his armamentarium of multitudinous drugs in the treatment of this disease with the grim steadfastness that makes the Anglo-Saxon the most wonderful and most exasperating of mortals.

The report of an ever-increasing number of cases of epidemic pneumonia, and of cases where infection could be directly traced to a pneumonic patient or to the room where such a sickness had occurred, accentuates the necessity for paying more careful attention to the *prophylaxis* of this disease by carefully disinfecting the sputum and the sickroom.

What, then, is the prospect for the treatment of pneumonia? Certainly a consideration of the best articles by the best men in this country and in Germany teaches us that in our present state of knowledge the best results will be obtained by careful nursing, diet and hygiene; by the *systematic* use of hydrotherapeutic measures during the entire course of the disease, cold sponging and cold packs seeming to be more practical than the full tub in most cases, certainly in adults; with very little use of drugs of any sort, except, when the heart requires it, some stimulant, the most serviceable being either alcohol or strychnia. Perhaps a dose of morphia may be needed to relieve the pleuritic pain if the ice-bag does not furnish relief. To these must be added the use of saline infusions whenever required, and the use of various inhalations, with or without oxygen, to allay bronchial irritation, while greater care should be exercised in prophylactic measures by disinfecting the pneumonic sputum and the sickroom.

While there is nothing either very radical or very striking in these suggestions, they at least call attention to the fourfold results of the work in this line during the past few years—first, the growing tendency towards hydrotherapeutic measures, and away from the systematic use of drugs of any kind; second, the increasing use of saline infusions in this disease; third, the need of greater attention to prophylactic measures, and fourth, the holding out of a greater semblance of hope that in the near future an effective method may be obtained for directly combatting thet toxemia by the preparation and use of an antipneumococcus serum.

DISCUSSION.

Dr. Jacobs: I would like to ask Dr. Brown if he found from any source anything about the nature of the pneumococcus—as to whether it is a toxine-secreting germ that might eventually, perhaps, have developed against it an antitoxine. I have a recollection of having heard Dr. Welch say that the germ itself was unlike the tetanus bacillus and other germs, in that it did not secrete a toxine against which an antitoxine would likely be developed.

Dr. I. E. Atkinson: Dr. Brown's paper offers many points for discussion that it is difficult to give any one the attention I should like to. In the first place, the statistics in regard to the use of antitoxic serum, so far as I have observed them, are utterly valueless in that the results are given without any statement concerning the ages of the patients. Now, if you give any of us twenty children with

lobar pneumonia to treat, I dare say we will all have 100 per cent. of recoveries. With the reported cases of adults treated, however, we should want some information about the age and condition of each patient, and especially as to his habits in relation to the use of alcohol. My experience with the serum is limited to three cases, all of which were bad ones, and treatment was not given in the early stage. The only appreciable effect noticed, and it was Pana's serum, was that there was a diminution of the temperature; but all three cases died, and, what was somewhat remarkable, was that in every case, after a few doses of the serum, there was complete failure on the part of the heart. Now, of course, the heart fails rapidly in pneumonia, and it would perhaps be unfair in these cases to attribute it to the antitoxine.

In regard to the use of oxygen, if one waits until the patient is about to die it is practically useless, but if in the treatment of croupous pneumonia one begins with oxygen in the beginning, I am satisfied that excellent results may be obtained, and in the past few years it has been my constant habit to begin its use early.

One thing to remember is that we have no specific remedy for pneumonia, and another thing is that there are no drugs that can be depended upon to do any specific thing, as Dr. Brown has said. I have no doubt that many of the drugs, especially the expectorants that seem to be so popular with physicians, upset the stomach, cause depression and do much harm. I think it is a great mistake to try to antagonize the disease by drugs, for all of our remedies for this disease are given upon preconceived theories, and not as the result of any practical demonstration. The use of cold water is, I think, extremely good, although I have not used it often enough to justify my speaking with any degree of positiveness. No one should speak of his results, perhaps, without trying it in thirty or forty cases, for his results might differ in different years and with different series of cases. I know, however, that we secure great relief from the use of hydrotherapy, and this is especially noticeable in children, who, after a cold bath, fall asleep and rest quietly for several hours, thus presenting a striking contrast to the tossing and crying that existed previous to the bath. While one may not fairly claim that the use of cold water is a curative in this disease, I think it is certainly an extremely valuable agent. We hope for an antitoxic serum, and meanwhile make the course of the disease as easy as possible.

Dr. Osler: I can add nothing to this very satisfactory presentation of the subject. It is not one that at this season of the year I like to speak of, although, perhaps, this is the season at which I am most optimistic. From the first of December every year I am greeted by the appearance on the blackboard in the Johns Hopkins Hospital of a sad spectacle. I have put on this board, from the day the first case of pneumonia comes in, a line showing its progress, and a red line under that indicates how it goes out. My pessimism grows deeper and deeper as April approaches. I may forget about it before the beginning of the next October, and even begin to feel a little more hopeful. My pessimism is now at its lowest point, but optimism is hardly the proper word to be used even at this stage.

We have gotten rid of the high mortality rate in diphtheria, in typhoid, in scarlet fever and measles, and, in fact, all of the eruptive fevers together, combined with their complications, do not kill as many people annually as pneumonia alone. There are fewer mistakes in the mortality records of pneumonia than in any other disease. It kills promptly and quickly. What we are to do against it is the question. I am convinced of one thing, and I have put it in operation this year—that in the rigid, thorough and systematic hydriatic treatment we have the best grounds for hope of a slight reduction in the mortality of this disease. I have given orders this year that all pneumonia cases shall be treated by hydrotherapeutic measures; not, however, those we have been using for ten years past. I have heretofore used those measures that gave the very best mortality record according to the statistics collected by Dr. May, but my pneumonia statistics are equally as remarkable as his. All of the cases have been treated very faithfully with ice bags, and my mortality statistics are almost the same to the very figures, viz., 25 per cent. of the cases died. Now, there are plenty of people who have a lower mortality rate than that in private practice. Some may have not more than 7 to 10 per cent., but the hospital cases usually show a higher rate.

I rather hesitate to tub all cases, but I think we can give effective sponging to practically all of them. The cold sponge should be thoroughly given, and it is not very far behind the full cold tub in its general unpleasantness and good effects. Another measure which I think is really helpful, and which very often helps to support a weak heart, is the use of saline infusions. I think we have in a number of instances seen lives saved by this means. As to oxygen, I am just a little bit doubtful, and when I am called in consultation and find the oxygen cylinder in the room, my barometer goes away down, and I am ready to throw up the sponge.

I have a strong conviction that we have not studied pneumonia sufficiently in the past. During the last four or five years we have been working over these cases at the Hopkins, and we are getting a very satisfactory lot of statistics in regard to the differences among cases of this disease. It is a disease that the individual physician must study, and he should study carefully each individual case. What we need most today is the careful study of a large number of cases seen in private practice, where better opportunities exist for seeing and observing them.

Dr. Brown: In regard to the point raised by Dr. Jacobs, I have not seen any definite statements concerning the isolation of a pneumotoxine.

As Dr. Atkinson said, the published reports of the failures and successes of the different serums have but little value because they are rather indefinite. I simply mentioned these reports because they were the only ones that I could collect on this subject. The four cases reported in the Maryland Medical Journal, in the March number, were certainly either treated simultaneously with the appearance of the crisis, or else the serum had an effect on the pulse-rate and temperature. The results may have come by chance, although these four cases were all severe ones, occurring in adults.

THE VALUE OF FORMALDEHYDE IN THE TREATMENT OF SUPPURATIVE OTITIS MEDIA.

By H. O. Reik, M.D.,

Assistant in Ophthalmology and Otology, Johns Hopkins University, and one of the Surgeons in the Baltimore Eye, Ear and Throat Hospital.

READ BEFORE THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, AT ITS ANNUAL MEETING, APRIL, 1900.

In the treatment of suppurative otitis media, whether acute or chronic, the prime factor requisite to success is surgical cleanliness. It is necessary not only to remove, as far as possible, all the products of inflammation, but to provide for the destruction of the organisms that give rise to the trouble. As a general statement, this is applicable, of course, to a suppurative process anywhere in the body, but a particular significance attaches to the second portion of the proposition when considering the treatment of an otorrhea, if we remember that, owing to the peculiar anatomical structure of the middle ear, it is almost impossible to thoroughly cleanse this cavity. The best method suggested, and the one in most common use, consists in syringing the ear with an antiseptic fluid, and to this method alone and to a comparison of the value of some antiseptics I shall confine my remarks.

In order to secure the best results in this way the syringing must be thoroughly done, for otherwise neither removal of secretions nor destruction of germs can be accomplished. The first difficulty met with is the fact that we are compelled to entrust the treatment to some member of the patient's family in a very large proportion of cases. It is impossible, for instance, in a large clinic to devote the time to each individual that would be required to thoroughly cleanse the ears, and nearly all of these patients must be instructed to have the work done at home. In this connection I may speak of the amount of syringing to be done, for, next to the ability to do it properly, I consider this the most important element. I believe we should never use less than a pint of the fluid for syringing a discharging ear, and perhaps a quart would be still nearer the correct quantity in most cases. If less be used, especially by one unskilled in the manipulation of the syringe, a considerable amount of pus may be removed, but very frequently a considerable quantity is left behind. Even with the larger amount of fluid and the skilled operator to employ it, a complete cleansing of the tympanum is seldom attained, but by this means even the layman can approach nearer the desired object, and the residuum is apt to be very much lessened, thus giving the antiseptic employed a better chance of rendering the cavity sterile. I desire to emphasize this point, that for the mechanical cleansing of the ear we must, as a matter of routine practice, use a large quantity of the

wash. In my opinion, the directions frequently given patients to syringe the ear with a glassful or teacupful of fluid is, in the majority of instances, to waste both time and material.

While many substances have been suggested for use in these cases, the ones most extensively tried are boracic acid and bichloride of mercury, but while both have seemed to serve their purpose fairly well, both have left something to be desired. In considering the value of any drug in this connection we must bear in mind not only the possible ultimate cure of the otorrhea, but the time required and the local effect of the remedy upon the tissues.

Boracic acid, even in saturated solution, is an extremely weak antiseptic, and it is very doubtful whether or not it has any bactericidal power. Some recent bacteriologic studies tend, I believe, to show that it has not even antiseptic properties. Unquestionably many cases of otorrhea are brought to an end by its use, but perhaps the same conclusion would be reached if simple sterile water were used, the good result being due either to complete removal of the purulent material or to the patient's ability to take care of the few organisms remaining, rather than to any germ-destroying properties of the boracic acid.

The germicidal power of bichloride of mercury is not questioned, but equally as important objections to its use present themselves. In the first place, it is a dangerous drug to place in the hands of careless and ignorant people. Secondly, when used in any serous or mucous cavity it tends to increase the secretions which, in the case under consideration, is just the reverse of what we desire, for we wish to keep the cavity rather dry.

In October, 1898, I first began to use formaldehyde in the treatment of suppurative otitis. For some time previously I had been much interested in the use of formaldehyde as a sterilizing agent, and while aware that weak solutions of it had been recommended for the treatment of purulent ophthalmias and for suppurative processes elsewhere, I had seen no reference to its employment in the ear.

Its evident advantages over boracic acid and bichloride immediately suggest themselves to you. Its bactericidal power will compare very favorably with bichloride or any other agent, and it can be entrusted to any patient with safety. Its less patent advantages are rapidity of action and a stimulating effect upon the local tissues.

The plan I have found most satisfactory is to use one drachm of the commercial solution of formaldehyde (40 per cent.) in one pint of boiled water, and to direct that the ear be syringed twice daily, using at least a pint of the mixture at each sitting. This is equivalent to a 1 to 300 solution of the formaldehyde gas. It seldom causes any amount of discomfort, but nearly always produces some stinging sensations, which last only a few moments, and are not seriously objected to by the patient. Some ears are more sensitive, and occasionally I have met with one who complained that the pain persisted for as long as an hour after the

treatment. Such persons are always instructed to weaken the solution by using only a half-drachm to the pint, or a solution of about 1 to 600 of the gas, and generally this overcomes the difficulty. Only once have I had to withdraw the remedy entirely.

I was soon impressed with the belief that my results were more satisfactory than with other remedies, and recently I have gone carefully over the case records in the dispensaries of the Johns Hopkins and the Baltimore Eye and Ear hospitals to see to what extent this view was correct. The difficulty of securing complete clinical reports of any large number of dispensary patients need hardly be mentioned. Of a very much larger number treated, I am only able to trace up and secure notes of the present condition in forty-seven cases, of which thirty-one were classed as chronic and sixteen acute. The line of demarcation between acute and chronic cases is, of course, a somewhat arbitrary one, and in studying these cases I have placed in the list of chronics all those in which the discharge had existed for more than one month.

Of the thirty-one chronic otorrheas, not a few had existed for long periods of time, despite some form of treatment; for instance, there was one of twenty-five years' duration, one of eighteen years, one of fifteen years, one of fourteen, one of twelve, two of ten years, and so on down the list. In some there had been periods of quiescence; in most a continuous discharge. The greatest length of time required in any of these cases to bring about a cessation of discharge was twenty-eight days, the shortest time two days, while the average in the thirty-one cases was nine days. Four cases were not improved.

It would be expected that the duration of treatment should be less in the acute cases, and a review of the sixteen cases referred to shows an average treatment of five and one-half days. One patient had to be placed on other treatment. It will be understood that the figures quoted are given merely because of their suggestive nature, as it would be manifestly improper to draw conclusions from statistics computed from such a small number of cases. As I said before, however, and these figures seem to support my idea, the results of formaldehyde treatment seem to be better than those obtained with other remedies. They are certainly better than I have been able to obtain from boracic acid, and I am not familiar with any published statistics to compare mine with.

One other point might be mentioned as an advantage gained from the use of formaldehyde, though at present I am unable to give any very satisfactory evidence in support of it. It is admitted by all, I suppose, that boracic acid seems to retard the healing of perforations in the tympanic membrane. Whether or not formaldehyde ever does so I cannot say, but I have seen no reason to believe that it does. It usually produces some hyperemia, the edges of the perforation appear to retain a healthier look, and in a few cases I have thought the wound healed more rapidly as a consequence of this stimulation. One might be very easily mistaken upon such

a point, however, and I can only hope that others will give this remedy a trial and watch its action.

In conclusion, I do not wish to be understood as claiming that formaldehyde will cure all cases of otorrhea, but merely desire to state my belief, based upon the experience given, that in those cases which are susceptible of cure by syringing with an antiseptic fluid, formaldehyde will accomplish the good result with more certainty and in considerably less time than any other antiseptic employed at the present time.

A CASE OF CHOLELITHIASIS SHOWING PURE CULTURE OF TYPHOID BACILLI, WITHOUT ANTECEDENT TYPHOID FEVER.

By C. W. Mitchell, M.D.,

Professor of Diseases of Children, University of Maryland.

READ BEFORE THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, AT TOWSON, NOVEMBER 20, 1900.

WITHIN the past few years contributions to our knowledge of cholelithiasis have been numerous and important. I shall not enter into a citation of extracts from the abundant literature of the subject. I shall attempt to summarize as briefly as possible the various steps by which we have arrived at our present knowledge of the causal relationship existing between the bacillus of typhoid fever and the occurrence of gallstones.

The researches carried on a few years ago by Chiari and others in Prague demonstrated the widespread prevalence of typhoid bacilli in enteric fever, and their special tendency to invade the biliary passages. It has been further shown that, having gained access to the gall-bladder, the bacilli may remain there for years, retaining not only their vitality, but also their virulence. Chiari has reported cases of systemic infection with typhoid bacilli, without the occurrence of intestinal lesions. Such cases are apt to show marked infection of the biliary channels.

Our conception of the etiological *rôle* played by the typhoid bacillus has thus been greatly widened.

Following the suggestive reports from the Prague pathologists came an awakening on the part of clinicians as to the great frequency of cholecystitis in typhoid fever. Relapses in typhoid are now looked upon by many observers as probably due to the reinfection of the intestine, by the passage into it, of quantities of bile containing virulent bacilli.

To the rapidly growing evidence furnished by the internal pathologist was added the work of the operative surgeon, who called attention to the frequent association of typhoid bacilli with cholelithiasis.

Finally, as the *experimentum crucis*, the most convincing of all arguments, there followed the brilliant achievements of experimental pathologists, Cushing and others, in Welch's laboratory, Richardson of Boston and others, who succeeded in producing gallstones by the injection into the bile channels of pure cultures of Eberth's bacillus.

Summing up all the evidence at our command, we are, I believe, justified in the statement that the bacillus typhosus produces gallstones, because, following Koch's rules with some latitude:

Firstly, it is often found in the biliary channels when gallstones are present; secondly, it can be artificially grown in pure culture when so obtained; and lastly, bacilli so cultivated can produce gallstones.

The case which I wish to report is that of Mrs. ——, aged thirty-three years, who consulted me in November, 1898.

With the exception of a remote tendency to rheumatism, the family history was negative. The past history of the patient was a particularly good one. As a child she had measles, but no other infectious disease. In 1895 she suffered a slight attack of influenza. Barring the puerperal period, she had never been confined to bed more than one week in her entire life. The patient had always lived among excellent surroundings, and was rather given to an overindulgence in rich food.

Present history, November, 1898: About ten days ago, returning from Atlantic City, she stopped at a hotel in Philadelphia. After a very rich and hearty supper, she was attacked, about midnight, with severe pain referred to the upper umbilical region, accompanied by severe vomiting and headache. A nearby physician, a homeopathist, was summoned, and diagnosticated appendicitis. The next day Dr. Musser saw the patient, dissented from the opinion of the homeopathist, and stated that the case was probably one of intestinal indigestion. There was at that time only moderate elevation of temperature. There was no pain radiating along the line of the bile ducts, nor did the pain suddenly subside. Jaundice was not observed. Constipation was present, but the stools, when passed, were of normal color. All symptoms subsided gradually, and after four days the patient returned to Baltimore.

Status presens, November 11, 1898: Patient is a large woman, weighing about 165 pounds. Complexion good. Mucous membranes normal. Temperature 102.4°, pulse 108, respiration 36, and quite superficial. Heart and lungs negative. Lateral decubitus; knees drawn high up. Liver and spleen not palpable. Abdominal walls not distended; everywhere soft and flacid, except in the upper umbilical region, where there is slight muscular rigidity. Vomiting, constipation and headache present. The diagnosis was made of intestinal indigestion, with some intoxication. After a period of two days, during which the symptoms gradually disappeared, the patient was allowed to get up.

I did not see her again until January, 1899, when I was hastily summoned, and found her suffering with the symptoms already described. This attack, however, had been ushered in with decided chilliness, and she complained of severe pruritus. At about the time of the subsidence of the fever a slight jaundice appeared, and then for the first time I entertained suspicions of biliary calculus. The patient was put upon a strictly regulated diet, and sodium phosphate with occasional doses of calomel were prescribed. Under this treatment she remained perfectly well until March, when she had her fourth attack. This was of longer duration, greater severity, followed by more decided jaundice, and the patient began slowly to emaciate. After this time the attacks became more frequent. The stools became putty-colored, and finally almost white, and the subsequent jaundice was quite intense and of much longer duration. At no time was there sudden cessation of pain, nor did the most careful inspection of the stools reveal the passage of a stone.

In June the patient left Baltimore for her suburban home. Throughout the summer the attacks occurred at gradually shortening intervals, each one followed by increasing tinging of the skin and exaggerated itching, so that finally jaundice and pruritus were constant symptoms.

During the month of August, owing to my absence from the city, I did not see the patient for about three weeks. Upon my return, I was truly shocked at her appearance. Emaciation was extreme, her weight having decreased to less than 115 pounds. She was confined to bed most of the time. Nausea was constant, and vomiting a frequent symptom. Jaundice was most intense, itching intolerable. The paroxysms occurred every two or three days, the temperature rarely becoming normal between them, so that the fever curve showed the "*fievre intermittente hepatique*" of Charcot. The patient's condition was so profoundly cachectic that at times I reproached myself for not having more fully considered the possibility of a malignant neoplasm. Thorough examination, however, revealed no evidence of a new growth, and I adhered to the diagnosis of gallstone. The liver was now somewhat enlarged, and the spleen slightly palpable. Hemorrhoids were present. The absence of sudden relief of pain and the absence of stones from the stools, the constant localization of the pain, and the pressure symptoms led me to believe that the calculus was arrested in the common duct, rather far down.

I urged upon the family the necessity of immediate surgical intervention, and Dr. Tiffany and Dr. F. R. Smith saw the patient with me. They concurred in the diagnosis, and the patient was sent to the Maryland University Hospital for treatment. The operation was performed by Dr. Tiffany. A single, large, non-faceted stone was found tightly fixed in the common duct just at its junction with the duodenum. Cultures were made from the common duct by Drs. W. R. Stokes and S. P. Latané. These gentlemen

worked absolutely independently of each other, and I am greatly indebted to them for the following report:

"The material from the common duct was inoculated on the surface of a slant glycerine-agar tube, and in twenty-four hours a grayish moist growth appeared. This was plated out in Hiss' acid agar-gelatin and developed a pure growth of small, round, greenish-yellow colonies with many peripheral thread-like processes, which are typical of the typhoid bacillus in this medium. A separated colony was spread over slant glycerine-agar, and in twenty-four hours a number of medium-sized, round, gray, moist colonies developed, which were pure, short, round-end bacilli.

"The bacillus was motile and stained by the ordinary dyes, but not by Gram's method. No fermentation formed in glucose, lactose, or saccharose bouillon. No indol reaction was present, and litmus milk was not acidulated. A gray, moist growth formed on blood serum. Gelatin was not liquefied, and bouillon was simply clouded.

"The most important test consisted in placing the bouillon culture in known typhoid blood, at a dilution of one to one hundred, the blood causing a well-marked typhoid reaction in fifteen minutes. The same blood caused a similar reaction when added to a laboratory culture of the typhoid bacillus. Control cultures of both bacilli remained quite motile for several hours.

"An interesting test was also made on the blood of the patient. This was diluted one to fifty, and then gave a typhoid reaction with a known typhoid bacillus, and also with the organism isolated from the patient's own common duct. The bacillus shows all the various characteristics of the typhoid bacillus, and should be regarded as the bacillus of typhoid fever. This opinion is further strengthened by the fact that the patient's blood reacted with the bacillus itself, as well as to a known bacillus of typhoid fever."

The above report was a great surprise to me. Before investigations were completed, I expressed the opinion that the two bacteriologists were probably working with the colon bacillus. The finished report, however, left no doubt that the infection of the ductus communis choledochus was that of the typhoid bacillus. I am as assured as one can be on any point of the past history of individual disease that this patient never had typhoid fever. I have known her and many of her family connections for years, and the most rigid scrutiny of her history reveals no occurrence of enteric fever. I therefore regard the case as one of local infection by the typhoid bacillus, without the presence of that symptom complex which we designate "typhoid fever."

Recovery after operation was rapid and uneventful. The jaundice, however, cleared up with extreme slowness. The patient is now perfectly well, and weighs about 160 pounds.

Within one year of the time of operation she gave birth, after a perfectly normal and easy labor, to a vigorous and healthy boy.

Current Literature.

SURGERY.

Under the Direction of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

Intra-abdominal Omental Torsion. Wiener. *Annals of Surgery*, November, 1900.

Our knowledge of this condition began with the report of a case of "*Retrograde Omental Incarceration with Torsion of the Pedicle*," by Bayer, in 1898.

The way had been paved for it by a report in 1882 by Oberst of a case of irreducible inguinal hernia, in which he found a marked torsion of the pedicle of the omentum within the sac; by Maydl, in 1895, of cases of retrograde incarceration of the Fallopian tube and appendix, and by Schoritzler, in 1896, of a case of retrograde incarceration of the omentum.

Bayer's patient had a left inguinal hernia of fifteen years' duration, which had always been reducible. Two days before operation she had a severe coughing attack, which was followed immediately by pain in the hernia, and a sensation as if a round object were revolving inside of it. When seen by Bayer the next day no hernial tumor could be found, but it reappeared on the second day. Operation was then undertaken, and revealed the omentum with a pedicle twisted four or five times upon itself within the abdominal cavity (outside the hernial sac). Within the sac was a loop of omentum, but the tip was in the abdominal cavity, and had been so constricted by the ring that it was almost gangrenous. The omentum contained by the sac was edematous, but not gangrenous. Bayer thought that after the torsion of the omental pedicle had occurred the edema and swelling of the peripheral portion had filled the sac and caused the tip of the omentum to be pushed back into the abdomen. Later this tip became so constricted at the ring as to lead to its gangrenous condition.

A somewhat similar case was reported by Baracz in February, 1900.

A man, forty-two years old, for years had had a reducible left inguinal hernia. Suddenly after lifting a heavy trunk there was much pain in the region of rupture. Later the local pain diminished, but severe abdominal pain set in. Bowels moved once and twice a day. Operation showed, as in the previous case, no increase in the omentum in the sac; in fact, this was no more than a cord, due to torsion. But in the abdomen, besides fluid, was

found a large, blackened omental tumor connected with the twisted cord in the hernial sac.

A case of torsion at the upper end of the omentum was reported by Peck in February, 1900. This case was peculiar, in that the entire omentum entered into the formation of the tumor and filled the right side of the abdomen from the umbilicus down to the pelvis. There was a small inguinal hernia present, but it seemed to have no connection with the tumor mass, which was adherent to the tube and ovary.

Hochenegg found a very similar condition in a patient forty-two years of age. The bowels responded to an enema, but it did not relieve the pain. A hernia, which was present, could be easily reduced. A diagnosis of appendicitis was made. Two days later the patient looked jaundiced, the abdomen became more distended, and the tender mass on right side had increased to the size of a man's head. The point of greatest tenderness was over the bladder. There was no vomiting, but frequent singultus. The hernial sac was distended, distinctly fluctuating, and extremely compressible. It was then supposed that the peritoneal exudate had entered and distended the sac.

On opening the abdomen about two liters of bloody fluid flowed out, and a bluish-black tumor the size of a man's head appeared. At the upper portion of the omental mass Hochenegg found a slender pedicle twisted on itself three times from right to left. Above the strand which formed the only connection with the tumor the omentum was perfectly normal.

These cases sum up the literature on the subject. The phenomena were proven to be the result of a pre-existing hernia in all cases but one (Peck's). In this case the tip of the omentum lay in contact with an adherent tube and ovary.

The author's own case was a man, seventy-nine years old, who had had a right inguinal hernia for thirty years. Eight months previous to operation he was thrown down by an electric car, but received no recognized internal injury. Four weeks before the second attack he suffered severe pain in the right iliac region for twenty-four hours. The present attack began four days before his operation with cramp-like pain in the right iliac region, and was not accompanied by either vomiting or fever. His bowels had moved regularly. Abdominal examination gave a rounded tumor the size of an orange about midway between the anterior-superior spine of the ilium on the right side and the free border of the ribs, extending from the axillary to the mammary line. It was tender to the touch, of a doughy consistency, and dull on percussion. The sac of the inguinal hernia on the right side was empty. Diagnosis of an intra-abdominal abscess was made.

On opening the abdomen a piece of omentum, dark blue in color and as large as the hand, was presented. Its distal end was adherent to the ascending colon near the hepatic flexure, while the proximal end was a pedunculated offshoot from the rest of the omentum and twisted five or six times upon itself.

The conclusion reached is that omental torsion occurs more often in males than in females (presumably on account of the more frequent occurrence of inguinal hernia in men), that it is not met with in youth, and that it is found only in persons who have hernia, although the diseased omentum is not always found in relation with the hernia. The portion affected may be small, or may include almost the entire omentum. The etiology of the cases in which the omentum is not connected with a hernia is very obscure. In other cases the etiology can generally be traced to forcible attempts at reduction of the hernia. In not a single case was the diagnosis made before operation. The cause for this is not far to seek. Not only are omental tumors extremely rare, but they have no characteristic symptoms. The symptoms they call forth are those produced by an abdominal tumor through its mechanical action. When the torsion takes place in connection with a hernia the diagnosis is naturally made of an incarcerated hernia. In all of the cases the urgency of the symptoms was recognized, and a prompt operation was performed. This is a practical point of some value: If we cut down on a hernia that produced the symptoms of strangulation and find only a strand of omentum in the inguinal canal, we should always investigate the intra-abdominal portion of the omentum to make sure that there is no torsion present there.

* * *

Two Cases of Filariasis—A Discussion of Its Surgical Aspects. Lathrop and Pratt. *American Journal of the Medical Sciences*, November, 1900.

Filariasis is so uncommon in Northern countries that it is often not recognized. This was the case in the first case reported by the authors. The patient apparently presented simply a small hernia with a varicocele, which at the operation was found to be composed of ten thick-walled, tortuous vessels, but most of which were of a much lighter color than veins. These were excised *in toto*, and the wound healed *per primam*, but in two weeks a hydrocele formed on that side, in the aspirated fluid of which embryo filariae in active motion were found.

At a second operation the hydrocele sac, including the testis, was excised. The tunica vaginalis was smooth, but the parietal layer was thickened and opaque. The spermatic cord was very large, measuring 5 cm. in thickness at its lower end. The globus major was greatly enlarged, soft, and its surface was marked with tortuous, dilated lymph vessels. The testicle was enlarged and similar in appearance to the epididymis. On the cut surface of the testis several writhing masses were discovered, which proved to be both male and female filariae. There was no subcutaneous edema or lymph scrotum present. The sutured wound healed by first intention, and was followed by a cure of the scrotal trouble, although when last seen, five months after the operation, embryo filariae were still to be found in the blood.

The history showed that the patient had come from Barbadoes,

where he had had several similar attacks. His brother also, then living in Boston, was sent for, and gave no symptoms of filariasis, but numerous embryos were found in his blood.

In an exhaustive review of the literature the authors show that while the embryos are frequently observed, in only eleven cases have the adult filariae Bancrofti been found, this case being the first in this country.

The length of life of the parent worms may be great. They often reside in inaccessible lymphatics, but in some instances are accessible to the surgeon. Many subjects showing embryos in their blood have never had any symptoms of the disease.

The immediate indication for operation is some local result of lymphatic obstruction, which may be produced by the adult worm or by their ova. The various lesions seen are as follows:

Dilated lymph glands—varicose glands, which decrease in size when the patient lies down, and are filled with fluid, which may be aspirated. They should be excised if troublesome.

Dilated lymph vessels, or varices (scrotum, leg, etc.), should be treated by complete excision, as in case here reported.

Chyluria, supposed to be due to a rupture of varices of the bladder or kidney, and one of the commonest signs of filariasis, is not operable.

Chylous hydrocele necessitates complete castration, as the parent worms are lodged in the testis.

Lymph scrotum, when troublesome from its size, should be excised, the testicles being covered by skin flaps from the thigh or abdomen if necessary.

Elephantiasis of the leg may sometimes be benefited by excision of strips of skin, but amputation is often the only measure capable of giving relief.

Filariasis cannot be transmitted directly from one person to another, but it has been shown that mosquitoes serve as the intermediary host, and that the young filariae continue their existence in water.

The increasing frequency with which the disease is being found in the Southern States should place us on our guard and lead us to advise prophylactic measures. The great benefit derived from surgical intervention in the localized processes argues strongly for radical local measures, and would even suggest the advisability of exploratory laparotomy in the hope of finding the glandular hiding-place of the adult worms, and permanently curing the disease by their removal.

* * *

Bilateral Resection of the Superior Cervical Ganglion of the Sympathetic for Glaucoma. Dodd. *Lancet*, October 13, 1900.

The operation described was performed as a result of an article brought out by Jonnesco in *La Presse Médicale* June 8, 1898. He had resected the superior cervical sympathetic ganglion for glau-

coma seven times with good immediate and subsequent results. There was an immediate and permanent fall in ocular tension, very energetic contraction of the pupil even in those cases previously iridectomized, disappearance of periorbital pains and cephalalgia, disappearance of the attacks in the irritative glaucoma cases, and very marked and permanent improvement of the sight in the cases where optic atrophy was not complete.

This lessening of the ocular tension, due to resection of the ganglion, is explained by the abtation of the ocular fibers of the sympathetic which traverse this ganglion before reaching the eye. These fibers are distributed to the iris, vessels of the eye, etc. Their excitation produces a collection of phenomena which is termed "glaucoma."

Permanent or intermittent contraction of the arterioles produces an increase of blood-pressure, from which arise extravasation and increase of the aqueous humor. Permanent or intermittent dilatation of the pupil draws the iris towards the iridian angle, which condition obstructs the canals or the zone of filtration, and prevents or slows down the flow of the aqueous humor. The permanent or intermittent contraction of the peribulbar muscular apparatus compresses the emissary veins of the bulb and clogs the venous circulation of the eye, whence arises dilatation of the intraocular veins. This being admitted, one understands the mechanism by which the resection of the superior cervical ganglion produces decrease of tension, and with this cessation of all the troubles of glaucoma.

Jonnesco believes glaucoma to be central, and not peripheral in origin, and by removing the ganglion the means of transmission, not the origin, is destroyed.

He thinks that the operation should be especially successful in chronic irritative and in simple chronic glaucoma. If this is true we have a means of relieving a large number of patients whose eyes, under the present conditions, progress from bad to worse.

Influenced by Jonnesco's results the author operated upon a woman sixty-two years of age, who had been under treatment for chronic glaucoma for fourteen years. An incision about four inches in length was made at the anterior border of the right sternomastoid muscle on a level with the angle of the lower jaw. The sheath of the great vessels of the neck was opened; the cord of the cervical sympathetic with the superior ganglion was found and dissected up. The ganglion was then seized in a strong pair of forceps and drawn forcibly down with a twist, so as to tear out the nerve from as high up as possible. The nerve was cut off at the lower angle of the wound and removed with the ganglion. The same operation was done on the other side.

A few days after operation the tension of the eyes was a soft normal, the pupils were small, and there was no pain. The time since operation is too short for any very conclusive statements in regard to the permanency of the cure.

NOTES ON TWO CASES OF EXCISION OF THE GASSERIAN GANGLION FOR EPILEPTIFORM NEURALGIA. Reuton. *British Medical Journal*, November 17, 1900.

The two following cases illustrate the value of the operation for excision of the Gasserian ganglion in cases of epileptiform neuralgia:

Case I. A male patient had suffered for seven years from increasingly severe attacks of epileptiform neuralgia of the left fifth nerve, so much so that he sometimes had as many as thirty attacks a day, with spasm of the left arm. Morphine was used habitually.

Removal of the ganglion was determined upon. The "high road" was used at operation; that is, a flap of skin, fascia and muscle was turned down, with its base either below or in front of the ear, and a large part of bone removed by the trephine, the aperture being increased in size by the clipping of forceps close to the zygoma. The tendency is to cut too high up. The opening being sufficiently large for working purposes, the dura was punctured and carefully separated from the skull until the foramen spinosum was reached, out of which the middle meningeal artery was seen emerging. After some delay with oozing, which is the greatest difficulty of the operation, the foramen rotundum and foramen ovale were exposed, and the inferior and superior divisions of the fifth nerve drawn out and divided with scissors. The ophthalmic division is best left alone, because of the troublesome eye symptoms which may follow its removal. The ganglion was then raised up and pulled away.

The patient suffered from shock for twelve hours, but gradually recovered, and for nearly two years now has been free from pain or spasm.

Case II. Female patient, aged sixty-seven, had suffered for five years from epileptiform neuralgia, the pain being principally referred to the right inferior dental nerve. The nerve had been removed previously, with relief for only three months.

The same operation as recorded above was performed in this case, the ophthalmic being avoided here also. This patient has been well now for one year.

The operation by "the high road" is very laborious, as the bleeding is troublesome. Elevation of the head diminishes the oozing considerably. Having separated the dura mater from the bone, the tempero-sphenoidal lobe, covered with dura, is held back with glass retractors. When the foramen spinosum is reached the middle meningeal is generally secured by a small wooden plug being pushed into the foramen. Should any difficulty be experienced in drawing up the brain from tension of the dura mater, the dura may be punctured, and the escape of fluid will materially increase the space to work in. Continuing to separate the dura inwards from the foramen spinosum, the ganglion, with the foramen rotundum and foramen ovale, are seen, and the nerves drawn out with a hook

and divided. Separating the divided nerves, the ganglion is raised up and removed, leaving the ophthalmic branch intact.

There seems no doubt that most of these cases can be ascribed to a descending neuritis.

PEDIATRICS.

By José L. Hirsh, M.D., Baltimore.

Unusual Case of Malignant Disease in Early Infant Life. H. J. Clark. *British Medical Journal*, October 20, 1900.

The author reports the following unusually rare case of malignant disease in early infancy:

Mrs. O. was delivered of her second child in January, 1899. At birth neither testicle of the child presented any abnormality in size or position. When ten weeks old some enlargement of the child's left testicle became apparent, wholly unassociated with any accidental cause. This enlargement was of steady growth, until at the end of eight months it had attained the size of a hen's egg, smooth and firm to the touch, and without any implication of neighboring glands. On December 19, 1899, the testicle was removed, and weighed one ounce thirteen grains. Microscopical examination of the tumor showed a columnar-celled carcinoma.

In this case neither parent presented any suspicion of malignant history.

* * *

Acute Leukemia in Childhood, with Report of a Case. Thos. McCrae. *Johns Hopkins Hospital Bulletin*, Vol. XI, No. 110.

A boy three years old was admitted to the Johns Hopkins Hospital for a slight cough and a peculiar gangrenous area over the sacrum. One paternal uncle had died of tuberculosis. There was no history of lues. Child had had none of the diseases of childhood, except chicken-pox. Developed bronchitis three months before admission, and since then had some difficulty in breathing. Adenoids were present. Until a few days before admission the patient had been as well as usual, and played about with ordinary vigor.

Examination showed a stout boy, with pale, flabby look. No rickety nodules. Lungs resonant, breath sounds accompanied by numerous sibilant and sonorous rales. Heart normal. Abdomen prominent. Edge of liver 3 cm. below costal margin. Spleen palpable and hard, reached to costal margin. No glandular enlargements. Over the sacrum was an indurated gangrenous-looking area.

Patient became gradually worse while in hospital. Constant coughing, and at times pains in the legs. A small petechial rash

appeared on the legs, most marked about the knees. Temperature ranged from 100° to 100.5°. Urine showed neither albumen nor sugar; specific gravity 1017. For two days prior to death, which occurred on May 30, there were several attacks of epistaxis, nausea and vomiting. Death was thought to be due to cerebral hemorrhage. There was no autopsy. *Blood:* Examination on May 12 showed hemoglobin 35 per cent., red-blood corpuscles 1,680,000, and white cells 26,000 per c. mm. (a ratio of 65 to 1). Differential count of the whites showed polymorphonuclears 13.3 per cent., lymphocytes 86.5 per cent., large mononuclears .2 per cent. Red cells showed no variation from normal, no nucleated reds being present. The staining of the nuclei of the lymphocytes was pale. One myelocyte was seen. Both the small and large lymphocytes showed a tendency to break up.

On May 19 hemoglobin was 32 per cent., red-blood corpuscles 1,760,000, and white cells 60,800 per c. mm. (ratio 29 to 1).

Differential count: Polymorphonuclear .4 per cent., lymphocytes 99.2 per cent. (small lymphocytes 96.6, large lymphocytes 2.6), large mononuclears .3 per cent., eosinophiles .1 per cent.

No nucleated red cells and no myelocytes were seen.

The striking feature of this case is its rapid course. From the time of patient's admission into the hospital, in comparatively good health, until his death was less than three weeks. In regard to the blood condition, a relatively high proportion of hemoglobin is seen, a condition found in pernicious anemia, lymphatic leukemia and splenic anemia. There was no diminution of red cells during the course of the disease. The lymphocytes showed a marked tendency to disintegration, and their nuclei took the stain poorly. The lymphocytes showed increase both absolutely and relatively. The polymorphonuclears showed an absolute reduction.

The author gives a *résumé* of thirteen previously reported cases. He finds nothing of importance in the family history. Eleven of the thirteen cases were in males. Onset was rapid. Hemorrhage from nose, mouth, bowels or kidneys occurred in ten cases. Fever was noted in eight cases, glandular enlargement in four cases. The spleen was enlarged in all cases, but the degree was not great. Enlargement of the liver was present in eight cases. Blood examination showed marked anemia in all cases. Hemoglobin varied from 40 to 18 per cent. Red cells varied from 2,350,000 to 1,000,000. In ten cases red cells showed no variation from normal. In seven of the cases no nucleated reds were found, and in four nucleated reds were present only in small numbers.

Leucocyte count varied from 209,000 to 21,000. In all cases the mononuclear elements predominate.

As regards duration, nine weeks is accepted as the limit of time within which a case can be considered acute.

Diagnosis can be made with certainty only through blood examination. Conditions with which it is most apt to be con-

founded are (1) an acute infection, with marked throat symptoms; (2) a hemorrhagic purpura.

Treatment is symptomatic.

* * *

BROMOFORM IN WHOOPING COUGH. Charpentier. *La Semoine medicale*, No. 14, 1899; *Arch. f. Kinderheilkunde*, Bd. 29, H. III.

While the value of bromoform in whooping cough has been acknowledged by many clinicians, the best method of using the drug is still in doubt. Charpentier recommends the following combination:

Ol. amygdol. dul.	15,0
Bromoform	gtt. xlviii
M. and ft. emulsio.	
P. G. Arab.	15,0
Aq. Lauroceras.	4,0
Aq. Destil.	120,0

In this mixture each teaspoonful contains two drops of bromoform, the large part dissolved in the oil, the rest in emulsion. As the bromoform is heavy and sinks to the bottom, the mixture must be well shaken before using.

Charpentier administers the mixture as follows: Children under five years receive as many times four drops as the child is years old; children five to ten years old are given twenty drops as the initial dose. The child must be closely watched, and the dose diminished as soon as symptoms of intoxication appear. The aforementioned dose is to be repeated five or six times daily. The infant one year old may readily take forty drops daily.

Charpentier observed that the disappearance of the paroxysms and the decrease in cough were associated with somnolence, the first sign of intoxication. It, therefore, appears that in order to attain the best results the bromoform must be pushed to this stage, but not beyond, or evil results may follow.

The bromoform must be used until the complete disappearance of all symptoms of the disease, and then gradually withdrawn, so as to avoid relapse.

* * *

DIABETES MELLITUS IN CHILDREN. L. F. W. Haas. *Jour. Am. Med. Assoc.*, November 17, 1900.

The author first discusses the various theories of diabetes and gives the histories of two children in one family. The father had an attack of articular rheumatism some years ago, without sequelae. Paternal grandfather and aunt died of tuberculosis. Patient's mother also probably tuberculous. Maternal grandmother died of tuberculosis. No history of nervous disease on either side of family, and none were ever known to have diabetes.

Case I. Girl, aged nine. Complains of pain in shoulder, arm and hip. Rash in the body and legs, resembling purpura. Heart sounds clear. Lungs, liver and spleen normal. Urination is fre-

quent, and child wets the bed at night. There is marked thirst. Urine is pale; specific gravity 1.040; no albumen; 5.1 per cent. sugar. Later the heart-beats became tumultuous; sounds clear. Increased pain in legs. Temperature 100.5°. Rash on the body continues.

Case II. Boy, aged five years. Well developed. Adenoids are present. About eighteen months ago he was run over by a bicycle and severely hurt; nature of injury unknown. Pains in back. Urine showed no casts or albumen; sugar in abundance; specific gravity 1.044; amount 32 f℥ in twenty-four hours.

These two cases are of interest for several reasons. The well-marked family history of tuberculosis on both paternal and maternal sides bears out the view that tuberculosis predisposes to diabetes. In the boy's case there is a history of injury one year before the sugar appeared in the urine. From the coincidence of the eruption, joint pains, fever and tumultuous heart action there is no doubt that the first patient had purpura rheumatica in addition to diabetes.

* * *

Leucocytosis in Whooping Cough. H. Mennier. *Archives de Med. des Enfants.*

In pertussis of children there is a constant leucocytosis which far exceeds the leucocytosis which is found in other afebrile affections of the respiratory tract, due probably to a specific virus associated with this disease. The leucocytosis is found comparatively early, even before the clinical symptoms are well marked; reaches its height during the periods of the paroxysms, and then gradually subsides as the stage of the decline of the disease progresses. In the beginning of the convulsive stage the number of leucocytes averages 25,000, and may reach 40,000. Complications, as otitis, bronchitis and broncho-pneumonia, seem to have no influence on the number of leucocytes. The increase of white cells is both relative and absolute, more intensive in younger than in older patients. The chief increase is in the lymphocytes, but all forms are increased to some extent. While the cause of the leucocytosis is unknown, it is probably due to the intense congestion of the tracheo-bronchial glands. The constancy of the leucocytosis in pertussis, its preponderance over all other spasmodic respiratory affections, and its early appearance, before the typical paroxysms, make the blood examination a valuable aid in differential diagnosis, and a decided advantage in prophylaxis in schools and hospitals.

* * *

Rotheln: Its Differentiation from Measles or Scarlet Fever. Henry Koplik. *Jour. Am. Med. Assoc.*, November 10, 1900.

The author agrees with Trousseau, Thomas, Baginsky and Eminghaus that rötheln is a distinct and definite disease, independent of measles or scarlet fever. It does not protect the patient

from measles. It may occur in subjects who have had measles, and may occur in the same subject a number of times. In other words, one attack does not give immunity from subsequent attacks. It attacks every age, from the youngest infant to adult life. It shows no predilection for sex. The prodromal stage gives no symptoms. There is no marked conjunctivitis, but there is usually a suffusion of the eyes. The eruption is usually the first symptom noted by patients.

The exanthem closely resembles that of measles. It appears first on the face. It is a papular of a deep rose-red color. The roseolar papules are distinctly arranged in a *crescentic* manner, so distinguishing it from scarlet fever. After remaining out in full efflorescence on the face and trunk only from a few hours to a day, the exanthem begins to fade.

Rötheln, unlike measles, is not a disease of the mucous membranes. The coryza, cough and bronchitis, as seen in measles, are absent. Eruptions may occur on the palate, but the author states there is no eruption on the soft or hard palate which he considers characteristic of rötheln. On the other hand, the characteristic measles spots (Koplik's spots) as seen on the buccal mucous membrane in measles *is never to be seen in rötheln.*

The lymph nodes behind the stemo-cleido-mastoid muscle are found to be enlarged. In many cases the lymph nodes are enlarged at the bend of the elbow, in the axilla and in the groin.

* * *

A New Symptom of Measles During the Period of Incubation. Combe. Review from *Arch. d. Kinderheilkunde,* 1900.

In an epidemic of measles the author found in examination of the blood during the last two days of incubation, and likewise at the height of the attack, a marked decrease in the number of leucocytes, which at times reached 50 per cent. The polynuclear cells were almost nil; the lymphocytes predominated. This hypoleucocytosis comes on gradually and returns slowly to normal. The author concludes that the toxin of measles is negatively chemotactic for the bone-marrow (the seat of formation of polynuclear leucocytes) and positively chemotactic for the spleen and lymph glands (the seat of formation of the lymphocytes). Scarlet fever is characterized by a decided hyperleucocytosis. A long-continued hypoleucocytosis is a bad prognostic sign. On the other hand, during the early period of invasion there is a hyperleucocytosis in measles, in contradistinction to other exanthemata. Combe believes that if the blood should be examined at this period for microorganisms they would be found. The condition of hyperleucocytosis during the invasion is characteristic of measles. When found in other diseases it is at the height of the disease associated with fever and skin lesions, and not before any other symptoms are present, as is the case in measles.

Society Reports.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD DECEMBER 7, 1900.

Dr. H. O. Reik: "Exhibition of Otologic Cases."

Case 1. Microtia, Polyotia and Anophthalmus.—This little patient presents a very unusual combination of anatomical defects. The child is five months old, of Russian parentage, but born in Baltimore. It is the youngest of seven children, all of whom are in good health and of perfectly normal development. Neither of the parents, nor any of their relatives, so far as I have been able to learn, have any marked physical defects. The child itself is of full size, perfectly healthy, and shows no other defects than those pertaining to the eyes and ears. You will observe that the right eye is of normal appearance, except for a small dermoid growth in the conjunctiva external to the cornea. The right auricle is of fairly good shape, but rather large, and there is no external auditory canal—only a blind *cul-de-sac*, about 6 to 8 mm. in depth, beyond the meatus. In front of the tragus is a supernumerary auricle, poorly developed and of about one-third the size of the normal auricle.

The left side of the face shows a much poorer development. The eyelids are closed almost completely, there being but a slight aperture at the internal canthus, through which we are unable to detect any evidence of an eyeball. In view of the study of similar cases, however, which have come to autopsy it is very likely that there is a rudimentary eye in this socket. In the place of the left ear we have only a small, shriveled and distorted bit of cartilage that bears very little resemblance to the usual auricle. On this side there is no suggestion of a canal, not even a depression, and on the cheek is a small nipple-like process, probably another rudimentary auricle.

The important question to the parents, of course, is that of treatment. I have advised them that the extra auricles may be removed, but beyond that I am not inclined to think favorably of surgical intervention. The child evidently hears fairly well, for she is beginning to talk, but an effort to establish external auditory canals would probably not be successful. In many of these cases, aside from the difficulty of securing and maintaining a canal, it has been found that the structures of the middle and internal ear are also defective. In this case I am rather inclined to believe that the internal ear is normal, as is evidenced by the child's ability to hear so well. That might well be so, inasmuch as the internal and external ears are of different development. The auricle, external auditory canal and middle ear all develop from the first branchial cleft, while the internal ear has a separate and distinct developmental center of its own.

Case 2. Congenital Aural Fistula.—There is nothing rare or unusual about this case except its family history. Just in front of the auricle, above the tragus, is the small opening of an aural fistula, which occasionally, on pressure, can be made to discharge a drop or two of milky fluid, but which is for the most part dry. The mother and grandmother of this individual

and her daughter have all shown the same peculiarity—a fistula in front of the right auricle, but none of the male members of the family have been so marked. To be able to trace such an anomaly through four generations is rather unusual. Such defects are supposed to be due to incomplete closure of the branchial cleft in the development of the auricle.

Case 3. Results of a Mastoid Operation.—I wish to call your attention to this case simply to show the beautiful results that may be obtained from the use of the blood-clot method in mastoid operations. The case was one of acute mastoiditis following grip, and in which there was not very much destruction of the mastoid process. On opening into the antrum a small quantity of pus was found, and it was discovered that the necrosis was limited to the antrum and one or two small neighboring cells. Thoroughly cleansing the cavity by curettement, the space was allowed to fill with a blood clot, and the external wound was closed tightly. In five days the dressings were removed, and on the seventh day the patient left the hospital. Nine months have elapsed since the operation, and at present the linear scar is almost invisible, and there is only a very slight depression over the site of the antrum.

The good cosmetic effect is, of course, not the only advantage of this operation; for instance, the average time required for healing when such a wound as this is packed and allowed to granulate is probably between two and three weeks, whereas this patient was able to leave the hospital perfectly well in seven days. I reported two other cases last winter, with equally good results.

Dr. J. Frank Crouch: "Epithelioma of the Larynx—Exhibition of Patient."

A laryngoscopic examination of this patient showed a growth about 2 mm. square on the right cord. The left cord was thickened, hyperemic and covered with small nodules looking very much like the ordinary trachoma of the cord. The diagnosis of an original tumor of the cord was easily made, but its character was in considerable doubt, as it lay between an ordinary benign papilloma, tuberculosis, gumma of the larynx and malignant growth. I decided to remove a piece of it for microscopic examination, although I knew that objections to that method had recently been made. The specimen was sent to Dr. Potter, and some sections were later submitted to Dr. Barker, both of whom pronounced it carcinomatous. In spite of this I instituted a vigorous antisyphilitic treatment, which was continued for three or four weeks; but, no improvement occurring, the advisability of an operation was placed before the patient. It was strongly urged, but positively declined. She left the city for a time, but has returned at intervals. Some time during the summer she began to improve, took on considerable flesh, and her voice became better, although it is now somewhat hoarse. The growth has continued, however, and now occupies almost the entire right vocal cord. The left cord is congested and also somewhat roughened, but the disease there has not advanced as rapidly as on the other side. She has no pain, and suffers only from the hoarseness.

There are about this case several things of unusual interest. She has had the growth now for nearly two years, and still there is no glandular involvement, so far as I can make out. Of course, that is not unusual, for

as long as the growth remains limited to the larynx there is not apt to be much involvement of the glands. The improvement in physical condition is not very remarkable, for some cases have been reported in which there seems even to have been a recession of the growth. That has been particularly noticed in patients taking antisyphilitic treatment. Such treatment was given in this case on account of the dictum of Morrell McKenzie, that all cases of malignant trouble of the larynx should certainly be subjected to such treatment before operation, because cases have been time and again reported in which a positive diagnosis of epithelioma has been proven false by vigorous antisyphilitic treatment.

In regard to operative measures, I believe that endolaryngeal treatment is now out of vogue, and it is generally agreed that it may do harm. A partial laryngectomy has been in some cases followed by a return after some years. Total laryngectomy has been done frequently within recent years, but the results have not been very encouraging so far. In a list of cases compiled some years ago by Powers and White it was shown that 25 per cent. died as the result of the operation, and of those that survived about 50 per cent. had recurrence within the first year, and only 10 per cent. survived beyond three or four years. It has now been suggested, and I think with excellent reason, that in all of these cases of epitheliomatous trouble in the larynx, taken early, the best operation is entire removal of the larynx together with the glands of the neck, for, so far as I have been able to learn about the cases done in this country within the last few years, nearly all have been followed by a recurrence in the site of the scar or in the glands of the neck.

Dr. Lee Cohen: I would like to say a word or two in reference to Dr. Crouch's remarks about involvement of the glands. In one case that I saw in Berlin, when the total extirpation was done, only one or two glands could be felt at all or found during the operation; but some time afterwards there appeared an infiltration of the cervical region and about the esophagus. I saw also one case of partial extirpation in which, after three and one-half years, there had been a recurrence of the trouble on the other side, and that half of the larynx had also to be removed. An artificial larynx had to be supplied, and with that the patient, an old man, got on very nicely.

Dr. Thomas R. Brown: "The Outlook This Winter for the Treatment of Pneumonia" (see page 1).

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MONDAY, OCTOBER 15, 1900.

THE meeting was called to order by the president, Dr. Henry M. Thomas.

Dr. Thayer presented resolutions expressive of the regrets of the hospital staff at the death of Dr. Lazear and extending sympathy to the members of his family. The resolutions were seconded by Dr. Osler and unanimously adopted, and, upon motion of Dr. Hurd, it was agreed that a copy of these resolutions should be sent to the family, and that they should also be published in the *Bulletin.*

The election of officers resulted in the choice of Dr. William H. Welch for president, and Dr. G. Brown Miller for secretary.

Dr. Osler: "Exhibition of Medical Cases."

The case which Dr. Osler exhibited was unique in several respects, and the diagnosis was not at all clear. The patient was a young man who entered the hospital on the 3d of October complaining of pain in the abdomen, associated with nausea and vomiting. He had eaten abundantly of pork, but it was not known whether the meat was raw or cooked, and as the patient spoke Polish only, very little history could be obtained. At the time of admission the most remarkable feature was his very deep cyanosis; there were practically no other symptoms, and his temperature was, and remained, slightly subnormal. On October 7, in addition to the cyanosis, which persisted to a remarkable degree, petechia appeared over the skin of the entire body except the legs. His appearance was very much like that of a case of malignant hemorrhagic smallpox. On the following day he showed exquisite tenderness of the muscles, and when a portion was excised and examined microscopically, it showed a marked degeneration, with a great deal of fat in the fibers. On the 9th his leucocytosis had risen to 52,000, the petechia had increased, his face was swollen, and he looked to be in a very critical condition, yet he was rational, apparently comfortable, and took his food fairly well. On the 14th his cyanosis began to diminish. Cultures from the blood were negative, and the examination of the muscle tissue for trichinae had not been completed.

Dr. Osler referred to those conditions in which marked cyanosis might occur without other serious symptoms, but this case did not seem to belong to either of those groups. It was looked upon rather as a possible case of myositis.

Dr. Kelly: "Bisection of the Uterus in Hysterectomy for Inflammatory Cases."

In the ordinary cases of pelvic inflammatory diseases the ovaries are innocently and only accidentally involved in the inflammatory process, and as a rule one or both can be saved, even though it is necessary to sacrifice the uterine tubes. If one ovary is saved the uterus must also be saved, as by doing this we conserve the function of menstruation as well as the internal secretion of the ovary.

Where the ovaries are seriously involved in the disease, where they are converted into abscess sacs or into hematomata, or where they are so densely and intimately involved with the pelvic inflammation that it is utterly useless to attempt to save them, the removal of the diseased organs should be effected, together with the uterus, whenever it is possible, in this way: by freeing the tube and the ovary on the least adherent side first, and then, after tying off the broad ligaments and pushing down the bladder and securing the uterine artery, the most difficult side is easily reached and enucleated by cutting across the cervix and exposing the opposite uterine vessels and ligating them. The uterus is then pulled up until the round ligament is caught and divided. At this point the operation may follow one of two courses, according to the difficulties encountered. In the first place, if, after dividing the uterus and pulling it up, the remaining tube and ovary can be readily enucleated by peeling them out from below upwards by working with the fingers in the lower and anterior part of the

pelvis, just opened up by the detachment of the uterus, then the enucleation may be concluded by removing all the structures *en masse*. In the second place, if the tube and ovary on the far side are densely adherent and offer any serious difficulties in the enucleation, then I would clamp off the uterus at the cornu and remove it, with one tube and ovary, and leave the more difficult side to be dissected out after emptying the pelvis, securing all the advantages of increased space and light.

It is my desire now to describe a method of enucleation through an abdominal incision, which is applicable to a class of cases still more difficult than those just referred to. Let us suppose, for example, a case in which there are pelvic abscesses on both sides densely adherent to all the surrounding structures, including the uterus; we will also suppose that the uterus itself is almost or quite buried in a mass of adhesions. In such a case the plan I have just described in detail is scarcely applicable, inasmuch as there is no easier side to begin on to start the enucleation, for both sides present the utmost difficulties.

In such a case the method of a continuous transverse enucleation does actually afford us, it is true, a great advantage over the older method of going down on both sides, for the simple reason that the enucleation of one side, the farther side, is always easier in this way, even though the difficulties of the first side are just the same after either method.

If, now, I could devise any method by which the enucleation of both tubes and ovaries could be effected from below upwards, it is manifest that a great advantage would be gained.

The vaginal hysterectomists have thus far had a decided advantage over those of us who prefer to operate above the symphysis, in the greater facility of the enucleation of adherent structures when they are attacked in a direction from the pelvic floor upwards. I am now about to describe a method by which this decided advantage is secured and combined with the other great advantages of the abdominal route, that of increased room and increased facilities of handling, abundant illumination, as well as the detection of various complicating conditions.

The steps of the method are these: If the uterus is buried out of view, the bladder is first separated from the rectum and the fundus found. Then if there are any large abscesses, adherent cysts or hematomata, they are evacuated by aspiration or puncture, and the rest of the abdominal cavity is well packed off from the pelvis.

The right and left cornua uteri are each seized by a pair of museau forceps and lifted up; the uterus is now incised in the median line in an antero-posterior direction and as the uterus is bisected its cornua are pulled up and drawn apart. With a third pair of forceps the uterus is grasped on one side on its cut surface as far down in the angle as possible, including the anterior and posterior walls. The museau forceps of the same side is then released and used for grasping the corresponding point on the opposite cut surface, when the remaining museau forceps is removed. In this way two forceps are in constant use at the lowest point. I commonly apply them three or four times. As the uterus is pulled up and the halves are everted it is further bisected down into the cervix, or, if the operator desires to do a pan-hysterectomy, all the way down into the vagina. The uterine canal must be followed, if necessary using a grooved director. The

museau forceps are now made to grasp the uterus well down in the cervical portion, if it is to be a supra-vaginal amputation, and the cervix is bisected on one side. As soon as it is divided and the uterine and vaginal ends begin to pull apart, the under surface of the uterine end is caught with a pair of forceps and pulled up, and the uterine vessels, which can now be plainly seen, are clamped or tied. As the uterus is pulled still further up the round ligament is exposed and clamped; then, finally, a clamp is applied between the cornu of the bisected uterus and the tubu-ovarian mass, and one-half of the uterus is removed.

The opposite half of the uterus is also taken away in the same manner. The pelvis now contains nothing but rectum and bladder, with right and left tubu-ovarian masses plastered to the sides of the pelvis, affording abundant room for investigation of their attachments, as well as for deliberate and skilful dissection. The wide exposure of the cellular area over the inferior median and anterior surface of the masses offers the best possible avenue for beginning their detachment and enucleation.

The operator will sometimes find, on completing the bisection of the uterus, that he can just as well take out each tube and ovary, together with its corresponding half of the uterus, reserving for the still more difficult cases or for a most difficult side, the separate enucleation of the tube and ovary after removal of the uterus.

The operation which I have just described is not recommended to a beginner in surgery. The surgeon who undertakes it must be calm and deliberate, and must bear in mind at each step the anatomical relations of the structures.

The most critical point is the bisection of the cervix and controlling the uterine vessels. If the cervix is slowly and cautiously severed, with a steady traction on the uterus under perfect control, there is no danger of seeing the organ suddenly tearing out, with rupture of the uterine vessels and frightful hemorrhage. As the divided cervix is pulled apart the uterine vessels are beautifully exposed and easily caught. Only a clumsy operator will plunge his needle or a pair of forceps deep down into the tissues and clamp a ureter. By cutting up the cervix, so as to leave a sliver on each side, the uterine vessels can be caught at a higher level than that of the division of the cervix.

If the uterus is densely adherent to the rectum all the way up to the fundus, a modification of this plan of operating may be followed; the anterior face of the uterus may be bisected and the cervix divided horizontally and the uterine vessels caught; then the rest of the uterus may be carefully divided up, its posterior surface in a direction from the cervix towards the fundus. The relations to the rectum are examined as the division is made, and at any point where it seems necessary a piece of the uterine tissue may be left adherent to the bowel. After the bisection the rest of the enucleation is effected as described above.

Dr. Mitchell: "Surgical Intervention in Cases of Typhoid Perforation."

Referring to the rapid growth of abdominal surgery for the relief of certain complications of typhoid, Dr. Mitchell cited the statistics given by Dr. Keen to show the importance of this work and the steady increase in the percentage of successful operations. In 1898 Dr. Keen collected reports of eighty-three cases of perforation operated upon, with sixty-seven deaths

and sixteen recoveries, a recovery rate of about 19 per cent. In the early part of this year he collected 158 cases, with 121 deaths and thirty-seven recoveries, showing a recovery rate of 23 per cent. In a period of fourteen years only eighty-three cases were reported, whereas seventy-five more were reported within the last two years.

In the Hopkins Hospital there have been thirteen cases treated by operation, with five recoveries, a rate of recovery of about 38 per cent. During the past summer five cases were operated upon in this institution, with four recoveries and one death from typhoid septicemia.

Dr. Mitchell related the histories of the five cases in detail, describing the methods of operating, the complications met with and the after-progress of the patients.

In discussing this subject *Dr. McCrae* referred to one particular point of interest in connection with a suggestion made some time ago by Dr. Cushing of the Hopkins Hospital concerning the possibility of operating in the pre-perforative stage. He stated that nearly all the cases of perforation which had come to operation had shown a decided localized pain for a few days before the perforation, and thought that this constant tender painful spot might prove to be very suggestive of a probable coming perforation. In one of Dr. Mitchell's cases this was well illustrated. At the operation Dr. Mitchell made his incision just over the tender spot. The operation was performed under cocaine, and as the bowel was drawn out and the inflamed area was touched by the surgeon the patient cried out with pain, which he said was exactly like that felt for days before the operation. An ulcer was found directly under the spot of tenderness.

Dr. W. B. Platt: "Report of Cases—(a) Knock-knee; (b) Bow-leg; (c) Epispadias."

The first two patients presented exhibited directly opposite types of trouble. Both had been operated upon, the one for knock-knee, the other for bow-legs, with very gratifying results. Dr. Platt explained that in bow-legs we usually have to deal with a general curvature in the femur, tibia and fibula, the extreme curves being probably due to the weight of the body. In knock-knee, however, the deformity is probably due to the lengthening of one side of the femur to a greater extent than the other. In these last cases the treatment consists in fracturing the bone and forcibly impacting the lower end into the upper, so as to get the desired straightening.

In the epispadias case six operations had been performed. In the first place, it was necessary to make a penis, as there was only a button present. This was done by cutting the corpus cavernosum on each side, and then the organ, having been drawn out, was bound down with plaster. The other operations consisted in making a urethra and a foreskin, and in closing up the skin urinary fistula.

Dr. Opie: "The Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis."

Some time ago Dr. Opie performed a series of experiments, in which he found that if both ducts of the pancreas of the cat be ligated, a very widespread necrosis of the entire abdominal fat, and of the pericardial and subcutaneous fat as well, though to less extent, was produced in about three weeks. If the ducts were ligated and pilocarpine given to stimulate the

secretion of the gland, this necrosis occurred within four days, showing that the escape of the pancreatic juice was the essential feature in the production of necrosis, and his work led to the conclusion that where we find widespread necrosis of the abdominal fat we may assume the existence of a lesion that has led to the escape of this fat-splitting ferment into the surrounding fatty tissues.

Dr. Opie then related the history of a patient recently seen in Dr. Osler's service at the Hopkins, who died of acute pancreatitis without marked jaundice. At the autopsy widespread fat necrosis was discovered, and also a large abscess that contained about 500 c. c. of dark fluid, with many necrotic particles. The pancreas gave evidence of previous hemorrhages, and in the bile duct a gallstone was lodged in such position that it might readily compress the pancreatic duct, and thus give rise to the condition mentioned.

A careful search of the literature disclosed a large number of cases of acute pancreatitis, with fat necrosis, that bore a probable relationship to colelithiasis.

Dr. Welch, in discussing this paper, said that he considered it a most important communication, and that while this explanation of such cases had been hinted at before, it had never been so clearly shown that the pancreatic disease depended upon the obstruction of the ducts. He believed that Dr. Opie's clear understanding of the conditions met with had been due without a doubt to the basis of knowledge gained in his experimental work.

He mentioned also, in this connection, the important bearing which occlusion of the outlets of glands has upon the study of infections. Normally the bile duct, the salivary ducts and the ureter are free of bacteria, but let there be even a partial obstruction, and the chances of infection are at once vastly increased. This readiness with which infection follows obstruction might then to some extent also be a factor in the pancreatic disease. The most common invader in such cases, of course, would be the colon bacillus, but it has nothing to do with the extensive fat necrosis, and is to be looked upon purely as a secondary invasion. H. O. R.

Book Reviews.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., assisted by G. H. R. M. Landis, M.D. Volume IV. December, 1900. Philadelphia: Lea Brothers & Co.

This volume, which ends the series for 1900, contains articles on "Diseases of the Digestive Tract and Allied Organs, the Liver, Pancreas and Peritoneum," "Genito-Urinary Diseases and Syphilis," "Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedies," "Diseases of the Kidneys," "Physiology" and "Hygiene."

The longest article in the book is the third one, by Bloodgood, a well-arranged and thoroughly satisfactory summary of recent advances in the most important branches of practical surgery. Naturally, this part of the

book demands the most liberal use of illustrations, and they are of the best.

Thornton's "Therapeutic Referendum" is, as usual, very good, and contains about all that is of interest in its field.

The four volumes for 1900 form an excellent chronicle of the advances in medicine and surgery during the last year of the century. There is very little in any of the books which is not of practical utility, so that the private library particularly needs them.

Air, Water and Food from a Sanitary Standpoint. By Ellen H. Richards and Alpheus G. Woodman, Instructors in Sanitary Chemistry, Massachusetts Institute of Technology. New York: John Wiley & Sons. 1900.

This very good book of 230 pages, octavo, fills a space that has long been apparent in the American literature of hygiene. The authors have had abundant experience in the chemistry of public hygiene, and have presented the subject in an agreeable style and in a form convenient for the sanitary officer, the chemist and the student. The larger part of the book is devoted to water. The apparatus and the analytic processes are clearly described. and the significance of the results fairly stated. The book is a particularly good guide to sound judgment upon water supplies. The authors are familiar with and have evidently been accustomed to consider all the data which enter into such a judgment.

In the Appendix are a series of useful tables and an excellent bibliography of the three subjects.

Disinfection and Disinfectants. A Treatise upon the Best-Known Disinfectants, Their Use in the Destruction of Disease Germs, with Special Instruction for Their Application in the Commonly Recogized Infectious and Contagious Diseases. By Henry M. Bracken, M.D., Professor of Materia Medica and Therapeutics in the University of Minnesota, Secretary of the State Board of Health of Minnesota. Chicago: The Trade Periodical Company. 1900.

This little book of eighty-five pages is intended for the use of undertakers and health-department disinfectors. It is concise and clear, and describes only the approved disinfecting agents and apparatus. The illustrations are very good.

A Text-Book of Histology. By Böhm and Davidhoff, with Extensive Additions by G. Carl Huber. Translation from the Second Revised German Edition. Pp. 480. Price $3.50, net. W. B. Saunders & Co.

This text-book is one of the standard histologies in use in many of the best medical schools in this country, as well as in Europe. The text is full, concise and clear, and the illustrations numerous and accurate.

The entire field of human histology is so well covered that it is difficult to select any special part for comment.

An especially important feature of the work is the chapter on "Technic," which follows the description of each tissue and organ, a feature which will prove of benefit to teacher and student alike.

We take pleasure in recommending the book. H.

The American Illustrated Medical Dictionary. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the Kindred Branches, with their Pronounciation, Derivation and Definition. By W. A. Newman Dorland, A.M., M.D. With numerous illustrations and twenty-four colored plates. Price $4.50 plain; $5 with index. Philadelphia: W. B. Saunders & Co. 1900.

A first-rate handy dictionary for the library table; not too large, but full enough for the requirements of physicians and students. There are good anatomical and clinical tables, besides tables of tests, stains, etc.

Compound words are easily found, as the cross-references are numerous.

The paper and type are well chosen to give a large page, though easily read, and therefore a very convenient volume.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession Thoughout the World. Edited by Henry W. Cottell, A.M., M.D. Volume III, Tenth Series, 1900. Philadelphia: J. B. Lippincott & Co.

This volume contains thirty lectures, divided among seven departments of medicine, some twenty pages of abecedarian instruction in the "Use and Care of the Microscope," and an excellent monograph (fifty-six pages) on "The Scientific Modification of Milk." This monograph is by Thompson S. Westcott. The lectures, by well-known men, are brief, practical, and many of them of great interest. Barring only the primer of optics, the contributions to this volume fully sustain the established value of the publication.

Musser's Diagnosis. A Practical Treatise on Medical Diagnosis. For the Use of Students and Practitioners. By John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, Philadelphia. New (fourth) edition, thoroughly revised. In one octavo volume of 1104 pages, with 250 engravings and forty-nine full-page colored plates. Cloth, $6 net; leather, $7 net; half morocco, $7.50 net. Philadelphia and New York: Lea Bros. & Co. 1900.

We have always felt that this is the best book on medical diagnosis published in the English language, and its ever-increasing sale and popularity is a promising evidence of the increased interest in diagnosis *per se* of the medical profession. In it is to be found *everything* relating to the proper making of a correct diagnosis; methods of examination and of observation; the data obtained from the clinical, bacteriological and pathological laboratories; the knowledge gained by inquiry from the patient—all these are so carefully, so thoroughly considered, that really there is nothing to criticise.

It is complete, it is practical, it is up to date, it is well printed and illustrated, it is well arranged, it is easy of reference—in other words, it is the best book on medical diagnosis, both for medical student and for practitioner. B.

A Practical Treatise on Sexual Disorders of the Male and Female. By Robert W. Taylor, A.M., M.D. Second edition, with illustrations. Lea Bros. & Co.

This, the second edition of the work, is a thorough and systematic treatise on the subject. It deals successively with the anatomy, physiology and pathology of the genital tract.

The anatomy is concise, but clear, and quite sufficient for the object in view.

The chapters on impotence, both psychical and organic, cover the field thoroughly. In the former numerous interesting cases are used as examples, while under the latter heading are collected all the conditions, both congenital and acquired, which prevent successful coitus.

There is a tone of practical common sense running through the whole book which is very refreshing, and it is really to this that the work owes its true value.

The author is far from being an alarmist on the effects of masturbation, and does not give the platform lecturer any material for "Talks to Young Men." His description of how the actual physical damage which results from masturbation occurs in the sexual tract seems rather unscientific. "The first morbid effect is hyperemia of the bulbous urethra, which is soon transformed into true catarrhal inflammation. This morbid state creeps backward and involves first the mucous membrane of the prostatic urethra, the verumontanum and the sinus pocularis, and may attack the prostatic tubules in part or in totality. Then, in bad cases, the morbid process extends through the ejaculatory ducts and attacks the ampullae and the seminal vesicles. Then there is produced a low grade of catarrhal inflammation, which extends from the bulb backward to the seminal vesicles and tends to lower the tonus and resiliency of these parts."

The last seventy pages deal with sexual disorders of the female. Throughout the system is the same as in regard to the male. The question of sterility in the female is too briefly dismissed. The remainder of the work is given up to local irritable conditions of the vagina, masturbation and the various specific and non-specific ulcerations and growths of the external genitalia.

The least satisfactory part of the book is that which deals with microscopic findings and pathology. W. E. H.

Correspondence.

"PRECOCIOUS MENSTRUATION."

By Elijah J. Russell, M.D., of Baltimore, Md.

To the Editor of the Maryland Medical Journal:

The case I have under observation is the second child of Mrs. D., who always has had and is now enjoying the best of health. The labor was perfectly physiologic and of short duration. On the fourth day of the puerpurium the attending nurse drew my attention to the genitals of the infant being bloody, also the napkin. I paid no attention to it at the

time, thinking it the brick-dust deposit which is frequently seen for a few days after birth. Upon my return the following day I was again notified by the nurse, and also the mother, who seemed alarmed. I had the parts cleansed, carefully separated the labia, and fully convinced myself that the discharge was vaginal. Fortunately, the child passed urine and feces while I was making the examination, thus enabling me to exclude them as the source from which the blood came. As labor was physiologic, and the child normal otherwise, I excluded injury as the cause.

The flow increased gradually until it assumed the dignity of a free menstrual discharge. It slowly diminished, and disappeared on the eighth day after birth. The total amount was probably an ounce. Two months have since passed without any further flow. There is nothing abnormal in either the mother's or the father's family. The mother began menstruating at twelve years and eight months, and has been perfectly normal.

Having read of a similar case somewhere, I referred to my text-books, but could find nothing bearing upon the subject. Several cases have been reported in recent issues of the *Philadelphia Medical Journal*, some calling it pseudo-menstruation, others precocious menstruation.

Dr. Paul F. Munde of New York declares that precocious menstruation is a misnomer, since it is evident that a discharge of blood for a few days from the genitals of a new-born female child does not constitute menstruation, "precocious" or otherwise. He says that such temporary postnatal genital bleeding in girls is not rare, having seen it a number of times while interne at a maternity hospital in his youth. It was then attributed to compression of the pelvis during birth, as in breech presentations, or in large children where the breech (after coming) had to be delivered by traction, or a rupture of a superficial blood-vessel in the vagina or the cervical cavity might easily account for the trifling bloody oozing, especially if there is catarrhal congestion of the cervical mucosa, as is found in some new-born uteri. Dr. Munde doubts whether the discharge was really blood, and not urine discolored by a dark red (brick-dust) deposit, such as is quite common for a few days in new-born children of both sexes.

Dr. Henry A. Strecker of Philadelphia reports a case of precocious menstruation, the patient now being three years and nine months old. The birth was normal. Shortly after birth a bloody discharge escaped from the vagina. This continued for a few days, and gradually disappeared. Eighteen months later the bleeding returned. The onset was accompanied and preceded by severe abdominal pains, the discharge lasting for two days. Two months later it again returned, ushered in by the same symptoms of pain. The following month the same condition prevailed, and again two months later. For the next five months nothing of the kind occurred, but since that time it has appeared regularly every twenty-eight days. The onset is always preceded by pain for twenty-four to thirty-six hours. The menstruation of the child appears on the same day as that of the mother. The face and development of the child are those of precocity; her mammary glands are large and stand out well from the chest, and hair is beginning to make its appearance on the pubes.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, JANUARY, 1901.

ARSENIC POISONING BY BEER.

E. S. REYNOLDS reports in the *British Medical Journal*, November 24, an interesting epidemic of peripheral neuritis observed during the last three months at Manchester. Several hundreds of cases have come under his own care, and the exceeding prevalence of the disease has been noted by other physicians. Women are affected more frequently than men. All are drinkers of beer or porter, naming five different brewers, and admitting a daily indulgence from four glasses upward. The disease resembles alcoholic neuritis in a general way, but differs in a greater amount of sensory and vasomotor disturbance, and in the presence of skin lesions (pigmentation, herpes, or a desquamating rash). Dr. Reynolds concluded that these symptoms were due to the presence of arsenic in the beer, and chemical examination by himself and Prof. Dixon Mann demonstrated arsenic in two different beers used in the Manchester district. He hazarded the guess that the source of the arsenic would be found in the sulphur used in the hop industry.

In the following issue of the *British Medical Journal*, December 1, a number of articles appear which show that the epidemic is not confined to Manchester. Dr. Cran, medical officer of Salford, had, on November 9, reported a remarkable prevalence of paralytic disease, due, he believed, to beer drinking. The death certificates alleging "multiple neuritis" or "alcoholic neuritis" as the cause numbered forty-three between July 23 and November 9. Drs. Delepine and Tattersall report that they examined every article used in the brewery to which one case had been clearly traced. They found among three samples of glucose one which contained arsenic, and a sample of "invert sugar" also contained arsenic. Both these samples had been purchased from the same sugar factory. These works were next visited and all their materials were tested. The sulphuric acid, glucose and "invert sugar" all contained arsenic. The commercial sulphuric acid used in the manufacture of glucose and brewing sugar is made from iron pyrites which contain considerable arsenic. In roasting the arsenic goes over with the sulphur, in the form of vapor, to the condensing chamber. From Liverpool Dr. Raw reports fifty-two cases of beer-drinkers' neuritis in the Union Infirmary, the largest number at any one previous time

having been thirteen. He says that during the year seven such cases have been mistaken for Addison's disease. There have been, among eighty-eight cases, eighteen deaths during the year.

Dr. Walker of Seaforth, Lancashire, reports that many cases have come under his observation. Most of them were women, and seemed to be aware that they were attacked by an epidemic disease, stating that they had neighbors or friends similarly affected.

At Chester, Drs. Newell and Prytherch report a remarkable number of cases of peripheral neuritis at the Chester Infirmary. Out of twenty-five patients seen at their homes in seven days, five were suffering from this disease. They have been observing the epidemic independently for some time, were impressed with its resemblance to metal poisoning, but excluded that diagnosis, and are strongly inclined toward a diagnosis of beri-beri.

Dr. West of Leicester has observed a similar epidemic prevailing during the last three months, and yet on the increase. He reports also an unusual prevalence of diarrhea in abstemious people, and is inclined to believe that the cheap sugar used by poor families may contain arsenic derived from the sulphuric acid used in its manufacture. In a family of eight persons, seven were seized with diarrhea. The small boy who remained well was the only member of the family who did not take sugar in his tea.

The Lichfield epidemic, reported by Dr. Fraser, has been noted for four months. Here men were the chief sufferers, and brewery draymen were so largely represented that suspicion fell at once on the beer. Other reports come from Stourbridge in Worcestershire, and from Warrington, Padgate and Earlestown, in Lancashire.

This very widespread epidemic is traceable to one concern supplying sugar to 200 breweries, so that it is likely that the "returns" are not nearly all in.

Perhaps the most remarkable phase of this most interesting history is the fact that from the moment that reasonable grounds were found for investigating the beer the brewers gave their hearty aid to the inquiry, and when the presence of arsenic was proven they took immediate steps to recall their stock from the retailers. The inquiry at the sugar factory was no less facilitated by the owners, and arsenic having been found in the acid, the glucose and the "invert sugar," this great concern also proceeded to warn all their customers against using their products, and to forfeit contracts for future delivery.

On this aspect of the investigation the *British Medical Journal* makes no stronger comment than the following: "It is only right to recognize that the traders now concerned have shown a most proper spirit," etc.

Only right! Proper spirit! If in America so much should be done, so peacefully and so speedily as our British cousins have done this work, the American hygienist would take an hourly temperature of the earth and search the sky for signs of the last great day.

LEAD POISONING BY BEER.

E. R. Morgan reports, in *British Medical Journal* for November 10, a case of lead poisoning that resulted fatally. The patient, a wheelwright and carpenter, was in the habit of stopping every morning on his way to work at a particular shop, where he purchased his daily pint of beer. He was quite regularly the first customer. A visit to the shop showed that the kegs were stored in the cellar, the beer being pumped through some twenty feet of lead pipe up to the shop. The first customer each morning, therefore, got the beer which had been in the pipe for several hours. Experiment proved that this first draught of beer contained lead in solution. After this draught the beer did not contain appreciable quantities of lead. This fatal case indicates that beer is capable of taking up considerable quantities of lead, and that it may acquire poisonous doses if it remains but a few hours in the pipe, or if the pipes are of great length, or if it is often in contact with lead during manufacture and distribution.

REFORESTATION OF THE WATERSHED.

At the recent meeting of the Maryland Public Health Association Dr. Charles O'Donovan made a strong speech upon the Baltimore water supply. He gave a comprehensive account of our superior natural resources and of the various influences which affect the character and quantity of the water. One suggestion, upon which he dwelt with especial emphasis, is of great practical value, though its importance has never been impressed upon the authorities. The city, he said, should enter the market and become a purchaser whenever property upon the watershed is offered for sale. The city could thus, at no great expense, gradually acquire large tracts of land, which, being reforested, would serve as barriers against the washings of neighboring farms, and would, besides, reduce the seasonal variations in the quantity of water.

In considering the question of public water supply but little weight is usually given to the relative security afforded by mere abundance. Dr. O'Donovan showed clearly that the dangers of pollution are modified by the flow of water in the stream and by the capacity of impounding reservoirs, and that the cost and the quality of the water are both affected as seriously by the washings of farms and bare hillsides as by the scourings of villages and factories. He pointed to a stubborn problem now confronting the authorities, the rapidly shallowing reservoirs, and declared with truth that this great expense could in future be largely obviated by reforestation of the watershed.

Just now, when one of the lakes can be fathomed with a leadpencil, and the resources of a dredging company have been found about as effective as a teaspoon, such a suggestion as this of Dr. O'Donovan would seem particularly timely.

Medical Items.

A small outbreak of smallpox is reported at Pinto, in Allegany county, in the camp of a gang of railroad laborers.

The date of meeting of the Pan-American Medical Congress has been postponed from December 24 to February 4.

Dr. Alan W. Smith has been appointed inspector of throats in the Baltimore City Health Department, and Dr. Samuel A. Keen has been appointed medical examiner.

It was stated in the British House of Commons during the recent inquiry that there have been among the troops in South Africa 15,625 cases of typhoid fever, with 3642 deaths.

The American Society of Naturalists and the affiliated societies were entertained by Johns Hopkins University at a reception given in McCoy Hall on Thursday evening, December 27.

A new medical society in Philadelphia is the Association of Medical Inspectors of Schools. Monthly meetings will be held, and the society will consider exclusively questions of school hygiene.

The British Congress of Tuberculosis will meet in London in July 22 conjointly with the National Association for the Prevention of Consumption. The congress will be opened by the Prince of Wales.

Dr. W. S. Richardson of Williamsport was assaulted by Harry Traver at Hagerstown on December 23. Traver claims to have struck Richardson but once, and only with his fist. Serious results are anticipated.

The Health Commissioner of Chicago is named with others in a suit for $50,000 damages brought by a woman who claims to have lost her beauty by an attack of smallpox contracted in the isolation hospital.

The Book and Journal Club held a meeting and "smoker" at the Faculty Hall on December 19. Prof. W. K. Brooks read a paper on "Harvey as an Embryologist," and Dr. Osler one on "Pickings from London Book Shops."

The New York City Board of Health will enforce sanitary regulations upon barbers. They will insist upon clean tools and utensils, a fresh towel for each customer, and the disuse of the powder puff and sponge. Numerous cases of barber's itch have led to this action.

The Health Department of Montreal recently held an examination of sanitary inspectors. The examination was conducted by Dr. Wyatt Johnston, and as a result many inspectors will lose their places. Hereafter appointments will only be made after examination.

Entrance to the practice of medicine is to be made more difficult in Germany. A bill sent to the Bundesrath by the imperial government lengthens the course of study to five years, and requires a year of practical work before license to practice can be issued.

Dr. John J. Abell, professor of pharmacology in Johns Hopkins Medical School, was injured by an explosion of some apparatus in his laboratory on December 11. His eyes were severely wounded by flying glass, and it was for a time feared that he might lose his sight.

Dr. Abram Claude of Annapolis celebrated his eighty-third birthday on December 4. Dr. Claude was a presidential elector in 1884, was postmaster of Annapolis for four years, has been several times mayor of Annapolis, and for many years was professor of natural science at St. John's College.

M. Vaillant's resolution has passed the Chamber of Deputies calling on the French government to prohibit the manufacture and sale of all alcoholic liquors which shall be pronounced dangerous by the Academy of Medicine. The consumption of absinthe has reached 10,000,000 liters annually, and it is against this destructive intoxicant that the resolution is directed.

The Spencer Lens Co. of Buffalo, N. Y., have secured the services of Hermann Kellner, Ph.D., as scientific director of the company. Dr. Kellner has been an associate of Abbe in the optical works of Karl Zeiss at Jena. The general superintendent of the Spencer Lens Co. also comes from the Zeiss factory, Mr. Carl Dieckmann, who is an expert in the construction of instruments of precision.

The only physician in Lake City, Col., is Dr. D. R. Lacey. He is serving a term in the jail for manslaughter, but has the liberty of the town, and is maintained at public cost. He has a considerable practice, and the county attempted to recover part of his professional earnings to offset the cost of his maintenance. Failing in this, the authorities petitioned the State Board of Pardons for his release. The doctor refused to sign this petition.

It may happen that Georgia will have a State Board of Health. A bill has been prepared authorizing the State Medical Society to name four physicians and the governor to name five others, who together shall constitute a State Board of Health. Among those who will be sorry to hear this news is a certain transplanted "aunty," who, when the public vaccinators appeared at her door, exclaimed, "O Lawd! I wisht I was back in ol' Georgy. Dey have smallpox der all de time, an' dey don' never vaccinate nobody."

James Armstrong, Thomas Armstrong and John H. Randall of the Metropolitan Medical College, Chicago, have been indicted by the federal grand jury on the charge of using the United States mails for the purpose of selling fraudulent diplomas. The case came up for trial on December 5. This concern employed agents in this country, in England and in India, who sold diplomas of D.D., Ph.D. and M.D. for sums varying from $25 to $150. The signed diplomas were carried about, and purchasers became the bearers of these degrees with no further ceremony than the insertion of their names in the diplomas.

The State Pharmaceutical Association has renewed its campaign for a State pharmacy law. An excellent bill was presented at the last legislature. It was defeated by the country storekeepers, who wish unrestricted license to sell poisons, inert or substandard pharmaceuticals, and worthless or dangerous nostrums. The law was also opposed by the manufacturers who cater especially to the country merchant. The pharmacists made the error of yielding place to amendment after amendment until their bill would have been valueless as a law. This fight has been going on for more than eight years.

The Tri-State Medical Association of Western Maryland, Western Pennsylvania and West Virginia met at Cumberland on Thursday, December 20. The programme included papers by Dr. J. W. McFarlane of Pittsburg on "Hip-Joint Disease;" Dr. John S. Fulton of Baltimore on "Difficulties of Diagnosis in the Recent Outbreak of Smallpox;" Dr. Hugh H. Young of Baltimore on "The Choice of Opertive Methods for the Cure of Prostatic Hypertrophy;" Dr. E. B. Claybrook of Cumberland on "Intubation in Membranous Laryngitis, with Report of Cases;" Dr. J. D. Skilling of Lonaconing, "A Report on Surgery."

The American Association of Anatomists met in Baltimore on December 27 and 28 in conjunction with the American Society of Naturalists. Among the Baltimore contributors to the programme were Dr. Charles R. Bardeen, Dr. Franklin P. Mall and Dr. Max Broedel, who presented the following papers: "Demonstration of a New Freezing Mixture;" "The Advantages and Limits of the Method of Reconstruction with Wax Plates in Anatomical and Embryological Investigations;" "Methods of Statistical Study in the Dissection-Room, with Special Reference to the Peripheral Nervous System;" "Development of the Diaphragm;" "The Origin of the Lymphatics of the Liver;" "The Intrinsic Blood-Vessels of the Kidney, and Their Significance in Nephrectomy."

The headquarters of the Association of Medical Librarians have, since December 8, been established at the Library of the Medical and Chirurgical Faculty. This association, which was organized by Dr. George M. Gould, has been in existence for two years, includes now twenty-one public medical libraries, and is receiving applications for membership from the remoter parts of this country, from Canada and Europe. Its chief purpose is to furnish an exchange whereby medical libraries may dispose of duplicates in advantageous manner. The growth of private libraries may be fostered in the same way, and owners of private libraries may become members. Dr. Merrill of the Surgeon-General's Library, Washington, and Dr. Fisher of the College of Physicians, Philadelphia, are, with Dr. Gould, the executive committee.

No award will be made of the Samuel D. Gross prize before October, 1901. No essay deemed worthy of the prize was received in January, 1900. This prize is awarded every five years to the writer of "the best original essay not exceeding 150 printed pages, octavo, in length, illustrative of some subject in surgical practice or surgical pathology, founded upon original investigations." An essay must be the work of a single author, an American citizen, must be written in the English language, and must be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, 219 South Thirteenth street, Philadelphia," before October 1, 1901. Each essay must be distinguished by a motto, and must be accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 2 BALTIMORE, FEBRUARY, 1901 Whole No. 993

REMINISCENCES OF AN OLD NEW ENGLAND SURGEON.

By J. Collins Warren, M.D., F.R.C.S.,
Professor of Surgery, Harvard University School of Medicine.

AN ADDRESS TO THE BOOK AND JOURNAL CLUB OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, NOVEMBER 21, 1900.

When your chairman kindly asked me to address you on some subject connected with the early history of Boston medicine, and to show some relics of bygone days which happen to be in my possession, I recalled the events of the past summer and the interesting ceremony of the centennial celebration of the foundation of the Royal College of Surgeons of England. I need not say that this occasion was replete with reminiscences of great value and interest, bringing back to the present generation memories of many of the distinguished surgeons of the last century. The exhibition in the library of the College of Surgeons shows many mementoes of those distinguished men, more especially of Hunter and his colleagues. Such an institution as the Royal College of Surgeons constitutes a splendid monument to the history of surgery in Great Britain, and it seems wise, in viewing how much importance it attached to the preservations of the great traditions of English surgery, that we should not lose sight of the fact that we have many valuable traditions of our own which we should not allow to pass by forgotten. It is somewhat in such a spirit as this that I take the liberty to bring before you some mementoes of the past.

The subject of my remarks this evening are some biographical notes from the life of Dr. John Collins Warren, one of the pioneer surgeons of New England medical history since the time of the Revolution.

Dr. Warren was the son of Dr. John Warren, a brother of Gen. Joseph Warren, who was killed at the battle of Bunker Hill, and who was, as perhaps many of you may not be aware, a member of

the medical profession. John and Joseph Warren were intimately associated with one another, and were the children of Joseph Warren, an old Roxbury farmer, whose homestead remains in the possession of the family at the present time.

It was as early as the year 1630 that John Warren, a fellow-passenger with Governor Winthrop on the "Arabella," arrived in Salem. A brother of this John Warren, Richard Warren, was one of the Pilgrim Fathers who came over in the "Mayflower."

This John Warren was said to have resided in Ashburton, a little town in Devonshire in England. On a recent visit to England I made a pilgrimage to this spot, saw the old homestead, a modest farmhouse, still standing as it was built nearly 300 years ago.

An interesting fact in connection with this visit to the old English homestead was the discovery of a place nearby labeled upon the map "Bunker Hill." It seems, therefore, highly probable that the immigrants who gave their name to the famous battle-ground came from the same part of England that many others did who afterward settled in the colony of Massachusetts.

I have already alluded to the fact that Joseph Warren was a physician. He was in active practice in Boston at the breaking out of the Revolutionary war, and continued to treat his patients till the eve of the battle of Lexington. His private ledger and daybook are both preserved, and show that his practice lay with many of the most distinguished families of the day in the town of Boston and its vicinity. Joseph Warren was an ardent patriot, and devoted what spare time he got from his practice to the cause of his country. He was an orator of no mean ability, and his oration, delivered in the old South Meeting-House on the occasion of the anniversary of the so-called Boston massacre, when several citizens were fired at and killed by British troops on State street, although of an old-fashioned style of eloquence, recalls vividly the stirring events of that time. Warren was unable to reach the pulpit, owing to the crowding of the aisle and doorway by British officers, who were there to prevent his entrance. Climbing up a ladder on the rear of the church through a window, he suddenly appeared in the pulpit with his oration in his hand, the original manuscript of which I have the pleasure of showing to you this evening.

The closing extract from his address is, perhaps, worth giving to you here:

"You, then, who have nobly espoused your country's cause, who generously have sacrificed wealth and ease, who have despised the pomp and show of tinseled greatness, refused the summons to the festive board and been deaf to the alluring calls of luxury and mirth, who have forsaken the downy pillow to keep your vigils by the midnight lamp for the salvation of your invaded country, that you might break the fowler's snare and disappoint the vulture of his prey, will reap that harvest of renown which you so nobly have earned; your country shall pay her grateful tribute

of applause. Even the children of your most inveterate enemies, ashamed to tell from whom they sprung, while they in secret curse their stupid cruel parents, shall join the general voice of gratitude to those who broke the fetters which their fathers forged. Having redeemed your country and secured the blessings to future generations, who, fired by your example, shall emulate your virtues and learn from you the heavenly art of making millions happy, with heartfelt joy, with transports only felt by such as you, you cry, 'The glorious work is done,' and then drop the mantle to some young Elisha and take your seats with kindred spirits in your native sky."

During the progress of this oration it is said that a British officer laid some bullets on the reading-desk beside the speaker. Warren carelessly dropped his pocket-handkerchief upon them and continued his address undisturbed by the incident.

Among the most interesting relics that remain of Dr. Joseph Warren is the prayer-book carried by him at the battle of Bunker Hill, taken by a British soldier from his pocket after the engagement and carried to England, where it was purchased by the Rev. Samuel Wilton, "who gave at least ten times the value of it in order that it might not be shown as a spoil taken from a Presbyterian rebel, and sent it to this country to his next of kin to be preserved as a relic in memory of its former owner."

Joseph Warren was still a young man, being but thirty-four years of age at the time of his death.

John Warren was some twelve years younger than his brother, having been born in 1753. He was his brother's pupil, and had already begun practice in the city of Salem at the time of his brother's death. There was no medical school at this period in Boston, and a medical education appeared to be obtained chiefly by serving an apprenticeship with some leading practitioner. John Warren served as a surgeon in the Revolutionary army during the early part of the war, and in that capacity came in contact with Dr. John Morgan, who was appointed director-general of the hospitals by Washington soon after his arrival at Cambridge to take command of the forces.

The friendship formed at that time seems to have been continued in after life, for I have in my possession probably one of the earliest works on a medical subject published in this country, entitled "A Disquisition Upon the Medical Schools of America," delivered at a public anniversary commencement held in the College of Philadelphia in 1765, which was presented to Dr. John Warren by his "respectful and affectionate friend, John Morgan."

John Warren had a large general practice, and also devoted himself to surgery, having been well fitted for that specialty by his military experience. He was one of the founders of the Harvard Medical School in the year 1785, and his reputation as an eloquent lecturer has been handed down through the generations of physicians who have recently passed away to the present time.

He married a daughter of John Collins, a governor of Rhode

Island, who was the happy mother of twenty children, of which John C. Warren was the eldest.

John Warren, as I have already said, settled in Salem, not wishing to interfere with his brother's practice, and thinking that, as Dr. Holyoke, a leading practitioner of that time, was getting old, he might finally succeed to his practice. But the changes of the Revolution brought him back to Boston, and it was fortunate that he did not remain in Salem, for he died at the age of sixty-one, in 1815, whereas Dr. Holyoke celebrated his one hundreth anniversary some twelve years later.

John C. Warren was born in 1778. He was the first Franklin medal scholar in the city of Boston, and graduated in good standing from Harvard College in the class of 1797. On leaving college he did not at first enter upon the study of his profession, as his father had hoped that he would take up some mercantile pursuit.

Society in Boston at this period felt the influence of the great social changes that were going on. The severity of Puritan manners had yielded somewhat to the softening influence and the polished bearing of the French officers whom the King had permitted to serve in the Revolutionary war. In his biographical notes Dr. Warren gives an interesting picture of life in Boston at the close of the last century. He says:

"At the period when I left college and became an inhabitant of Boston it was thought necessary to undergo the operation of a barber half an hour every day. This consumed much time, besides the horrid consequences of carrying on one's head a quantity of curls, flour, pomatum, and the long cue or a heavy club.

"The dress at that time was a colored coat with metal buttons, usually yellow; colored waistcoat, short breeches, buttoning at the knees; long boots with white tops, and when riding on horseback a pair of leather breeches instead of pantaloons, of drab cloth.

"These yellow breeches were daily cleaned with yellow clay, which required that the coats should never be brought in contact with them. Then a short ruffle at the breast and about the wrists, a white cravat, filled out with what was called a pudding, the use of which, from the effect of habit, could not be dispensed with for some years.

"Cocked hats were very much worn at the time, but not by the young.

"Gentlemen of a certain age wore wigs, which were sent to the barbers once a week to be fresh dressed, so that on Saturday night we saw the barbers' boys carrying home immense bundles of wig-boxes as a preparation for going to church on Sunday.

"Physicians who had much business in those days rode on horseback. Riding in a chaise was very rare, and in a four-wheeled carriage still more so. My father rode on horseback till a few years before his death.

"Dr. Lloyd generally drove a very fine horse, and Drs. Jarvis and Whipple were famous for beautiful saddle horses and the elegance with which they rode.

"Large parties opened at 7 or 8 o'clock in the evening, and were much more formal than at present. A friend of mine told me that he saw me dance a minuet in 1786 or thereabouts, and that this was the last time that he had witnessed this dance in Boston.

"Persons of a certain age were treated with a degree of deference now wholly disused. In fact, one of the great traits of the manners of the present time is the manner with which young persons are accustomed to treat persons older than themselves.

"Gentlemen's dinner parties began early and ended late. The great care on the part of the host was to present to the guests as much ordinary wine as they could be made to drink, and then to bring forward in succession a variety of old wines, each having a character a little better than that which preceded. All of these had some remarkable history connected with them, the detail of which constituted an important part of social discussion.

"On the whole, the dinner-parties of those days must be looked on with disgust, for not only was the quantity sufficient to make irreparable inroads on the physical organization, but this indulgence led to coarse extravagance of language and thought, and the conversation at a dinner party, if taken down by a stenographer and presented to the party on the morning following, would have filled them with shame and regret."

In later life, it may, perhaps, be well to remark here, Dr. Warren became president of the Massachusetts Temperance Society, and felt obliged on accession to that office to give away a cellar of fine wine. At some of his later dinner parties the old negro butler used to carry around two fine silver pitchers in his hands, inquiring of each guest in turn whether he would have rain water or Cochituate water.

An idea of Dr. Warren's somewhat stern bent of mind may be gathered from the following note of his:

"My father was so very much occupied in professional business, giving lectures, attending societies, that punctuality and method were indispensable to the accomplishment of these numerous objects. I therefore learned very early to apportion out my time for definite objects, * * * and formed a habit of occupation which compelled me to fly from indolence and repose by something like an instinctive movement. For the same reasons I have been led to avoid all those amusements which are resorted to merely to pass away the time without contributing anything to the stock of intellectual, moral, or physical improvement."

After one year spent in the study of medicine at home he embarked for London June, 1799, in the ship "Minerva." Our country being at that time at war with France, the ship had an armament of 26-pounders. The passengers immediately enrolled themselves and took charge of some of them, and in course of the voyage became quite proficient in gunnery practice.

Dr. Warren says:

"One night the captain determined to try our alacrity and presence of mind, and he ordered the mate and boatswain to call all

hands to quarters at midnight when we were buried in profound sleep. In five minutes we were all at our stations and had every gun prepared for action. We cried to the captain to point out the enemy that we might fire, and were not excessively disappointed at hearing it was merely an experiment. So, after all hands had a drink of grog, we retired quietly to our berths. We, however, landed without any fight. But the next voyage the same ship 'Minerva,' of twenty guns and forty men, was attacked by a strong French ship-of-war having the same name, having the same number of guns and 150 men. Of course the "Minerva" was no match for such a ship, being a thin-sided merchant vessel. She made a fight, however, but she was taken, and three or four men who were at our guns were either killed or very much lacerated."

On landing at Dover the travelers found a fine British regiment and a body of artillery. Dr. Warren says "that one of the officers seeing us there, spoke to one of our party, and finding that we were Americans, immediately told us that he had been in America during the late war, and was, if I recollect rightly, in the battle of Bunker Hill. His name was Captain Dunker. He attended to us through a review, and afterwards took us to his quarters to tea."

Traveling through the south of England, Dr. Warren chanced to meet General Arnold, "the traitor, so called." "He was there with his family. I recollect his son—very handsome—and a daughter. Arnold was rather a stout man, broad shoulders, with large black eyes. He walked lame from a wound received at the attack on Quebec, I think." It is a curious fact that after the death of Joseph Warren, Arnold became an ardent friend of Joseph Warren's children, and declared his intention to aid these children in obtaining a government pension.

On arriving in London Dr. Warren made an arrangement with Mr. William Cooper, surgeon of Guy's Hospital, to be his dresser for a year, for which he paid the fee of fifty guineas. Mr. Cooper was the senior surgeon, and Warren was immediately put in charge of about forty patients. Quite a large number of these patients required daily dressing, which he practiced for a year faithfully. During his week he slept in the hospital. As Mr. Cooper was well advanced in life, he left matters pretty much to his dressers. He came to the hospital only twice a week, and walked around with them in a very quiet way, making amusing and instructive remarks. He had no great respect for America, considering her as having separated from the British Empire before maturity.

He was, however, very much pleased to find Americans so white-complexioned and so little contaminated with Indian blood.

This gentleman was succeeded by his nephew, Mr. Astley Cooper, who was then quite a young man and very promising. Warren says of him:

"He was one of the handsomest men I ever saw, and was always very kind to me through his life."

Of his work in London at this time he says:

"In the morning I went through my dressings. At noon at-

CATALOGUED 1902 A. H. B. AUG 10 1903

tended Cline and Cooper's lectures. Dissected in the evening, and wrote off my notes at night. This last I did with great regularity, and got a fair copy in epitome of the lectures above mentioned, and also of Sir Astley Cooper's lectures on surgery in the evening. At the same time I attended a complete course of midwifery by Dr. Haighton, and a course in physiology by the same gentleman. We had also a good course of lectures on the teeth by Mr. Fox. The most distinguished men of that time were Drs. Saunders, Ralph and Babbington, in Guy's Hospital; at St. Thomas was Dr. Fordyce; at St. Bartholomew's, Mr. Abernethy; and at St. George's, Sir Everard Home."

In one of his letters to his father at this time he writes:

"Once I remember you asked whether I intended to become a surgeon. The question remains unanswered. At that time I had seen enough to have an idea of the success of an operation, but none of its pleasures. Now I see a good operation with the pleasure I used to feel at the successful solution of Euclid's problems—a pleasure greater than almost any I know. I have acquired that taste, that high relish for that without which no man can carry himself to the attainment of any art, and am only surprised that I was so long blind. There are operations almost every day for stone, hydrocele, cataract, and amputations innumerable, but Mr. Cline's operations for aneurism or hernia are grand. It is a pleasure to see him take up or turn his knife.

"Dissection is carried on in style; twelve or fifteen bodies in the room, the young men at work on them in different ways. The people called 'resurrection men' supply us abundantly. An odd circumstance happened some time since. A hungry beggar had got some bread and ate with such avidity as to suffocate himself, and fell down in the street. One of the 'resurrection men' passing, immediately claimed the man as his brother, and took him to the dissecting theater of St. Thomas, and secured a good price. The man's trachea is now made into a preparation."

You are all familiar with the difficulties which surrounded the early teachers of anatomy, and it is not necessary for me to allude more to this subject here, except to say in this connection that Dr. Warren, who later experienced the great difficulties in the study of anatomy that had been the lot of his predecessors, left directions that after his death his body should be dissected, his skeleton prepared and articulated and deposited in the Warren Museum at the Harvard Medical School, and it still hangs there today.

In the autumn of 1800 Warren left London for Edinburgh in company with his friend Jones, the author of the well-known treatise on the "Hemorrhage of Divided Arteries." Warren said of him: "Jones was a West Indian, a native of Barbadoes. He studied much in England, but ultimately returned to his native isle and died there at an early period. We left London, came in a post-chaise, a very expensive but delightful mode of conveyance. We

took about a month to go to Edinburgh, stopping, of course, at all interesting spots."

Dr. Warren remained a year in Edinburgh, and obtained a medical degree from that university. His course at Edinburgh was to rise at 8 in the morning, and, having breakfasted, to go to Dr. Gregory's at 9, Dr. Hope's chemistry at 10, John and Charles Bell's at 11, infirmary at 12, Monroe's anatomy and surgery at 1. "I got home about 3 and dined. Then passed the afternoon and evening in writing off lectures."

We see in this tabular view of closely-crowded exercises the operation of a system which was followed so assiduously by our teachers under the old system of medical education prevailing in this country during the first half of the century.

In June, 1801, Dr. Warren left Edinburgh to go to the Continent. As an example of the slowness of travel in those days it may be mentioned that the voyage across the North Sea occupied a week, the travelers being obliged to live upon salt pork, beef, and cabbage. The following winter was passed in Paris in the household of the celebrated Dubois, his clinical studies being conducted chiefly at La Charité, the Hotel Dieu being in too bad a condition at that time to be attended to advantage. He says:

"The French students with whom I mingled were green from the French Revolution. They were for the most part a rude and vulgar set of people. Sometimes they behaved so rudely that I resented it, and got into some pretty serious quarrels."

Dr. Warren returned to America in the autumn of 1802, and began at once the practice of his profession. During the following summer he was left in charge of his father's practice, medical and surgical. "At that period I made some fifty visits a day." I do not propose to burden you with too much detail in regard to Dr. Warren's later professional life. He succeeded to his father as professor of anatomy and surgery, and continued to hold that position until 1847, covering a period of life as a teacher of forty years. The Harvard Medical School was situated at first in Cambridge, but owing to the difficulty of professors in active practice reaching that locality, it was moved in 1810 to the city of Boston. It was about this time that it was proposed to establish a hospital in Boston, and Drs. James Jackson and John C. Warren, two leading practitioners in the city at that time, addressed a circular letter to some of the wealthiest and most influential citizens for the purpose of awakening in their minds an interest in the subject. In this letter they say: "A hospital is an institution absolutely essential to the medical school, and one which would afford relief and comfort to thousands of the sick and miserable, and upon what other object can the superfluities of the rich be so well bestowed?" They made the mistake of placing this hospital in the hands of an independent board of trustees, instead of uniting it intimately with the medical school.

It may be of interest to mention that after the death of Caspar Wistar of Philadelphia, the distinguished professor of anatomy in the University of Pennsylvania, in 1818, Dr. Warren was asked to become a candidate for that position, and later he received on the part of the regents of the University of New York an invitation to take the office of professor of anatomy in that institution. He says: "The same reasons which had operated on my mind in regard to Pennsylvania influenced me in respect to that in New York, and with an expression of my thanks for the high honor conferred upon me, I respectfully declined the invitation."

Dr. Warren was one of the founders of the *Boston Medical and Surgical Journal*, which was established in 1828 as the successor to the *New England Journal of Medicine and Surgery and the Medical Intelligencer*. At this time Dr. Warren occupied an old mansion-house on Park street, which accommodated not only the members of his family, but served as a place of study for a considerable body of medical students, to whom one room with a sanded floor was assigned. The system of medical apprenticeship was evidently at that time in its highest stage of development.

At the age of fifty-nine Dr. Warren sought relaxation for the first time by a visit to Europe, returning to the scenes of his old studies, fortunate in being able to find many of his old friends and teachers still alive. On the voyage across the Atlantic in the good ship "George Washington," it may be of interest to mention that his family had as a fellow-passenger Napoleon III. This was after his first attempt to incite a revolution in France, on account of which he had to come to America, and was then returning to his mother, who was quite ill at Geneva.

He says of the Prince: "He was versed in classic literature and fond of it; quite a proficient in mathematics, and showed me a thick octavo volume he had composed on the sciences of artillery and engineering. He was also versed in the simple accomplishments which make a part of French education—comic acting, tricks with cards, etc., some of which were very remarkable. All these things he did with imperturbable gravity, never looking as though he enjoyed them, but doing them for the amusement of others. He never talked politics."

Dr. Warren was fortunate in the friendship of so distinguished a surgeon as Sir Astley Cooper throughout his life, and it was his great pleasure that he was enabled to meet him again on his return to London. He says of him at that time:

"Sir Astley Cooper continues to be one of the most zealous and successful cultivators of anatomical and physiological science. Having acquired an ample fortune, he has no occasion to submit to the laborious and responsible duties of a professor, but he is ready at stated hours to give advice to those who apply. He rises early, and employs two or three hours in anatomical and surgical investigations before breakfast. Afterwards he receives patients at his house till 2. He then visits until 6 or 7, the common hour of dinner."

During this visit to London a very beautiful daughter of Dr. Warren was so unfortunate as to contract smallpox. She was supposed to have been exposed to the disease during the review of one of the regiments of the Guards in London, when she was escorted along the line on the arm of a British officer. She was attended during her whole illness by no less a person than the Queen's own physician, Sir James Clark. Dr. Warren says of him: "Dr. Clark is the author of the best treatise on consumption which we have in the language. Dr. Clark is a person whose character and manners excite extraordinary interest in those who meet him. He is physician to the Queen, and has reposed in him a high degree of confidence by distinguished persons." His patient, Emily Warren, now a very old lady, writes to me as follows: "On looking over my mother's journal I find the following entries: 'Sir James Clark called to bid adieu, and brought Dr. Warren the Queen's autograph, written expressly for him, which I had framed. Sir James has been very kind, visiting Emily every day since her illness.'"

Through the courtesy of Sir James Reed, Her Majesty's physician today, the writer has been able to obtain a duplicate autograph from the Queen written over sixty years later.

The crowning event of Dr. Warren's surgical career came to him late in life, many years after his return from Europe. Time will not permit me to go into the details of the first introduction of surgical anesthesia at the Massachusetts General Hospital in 1846. Dr. Warren was then the senior surgeon of the hospital, of which he had been one of the founders. He had left upon it the impress of his strong personality, and established an *esprit du corps* which has pervaded the staff of the hospital from its foundation until the present time. Of what he had to do with the great discovery I will myself make no mention, but will content myself with giving an extract from the obituary address by Dr. Oliver Wendell Holmes. Dr. Holmes said:

"He had reached the age when men had long ceased to be called upon for military duty, when those who have labored during their days of strength are expected to repose, and when the mind is thought to have lost its aptitude for innovating, and to live on its accumulated stores; but nothing could surpass the eagerness with which he watched and assisted in the development of the newly-discovered powers of etherization. It is much for any name to be associated with the triumphs of that beneficent discovery, but when we remember the reproach cast upon Harvey's contemporaries, that none of them past middle age would accept his new doctrine of the circulation, we confess it to have been a noble sight when an old man was found among the foremost to proclaim the great fact, strangely unwelcome as well as improbable to some who should have been foremost to accept it—that pain was no longer the master, but the servant of the body."

TUBERCULOSIS OF THE VESICULAE SEMINALES, TESTES AND PROSTATE; COMPLETE EXCISION OF RIGHT SIDE; INCISION AND CURETTING ON LEFT SIDE: CURED.

By George Walker, M.D.,
Instructor in Surgery, Johns Hopkins University.

Since the nature and etiology of tuberculosis have been well understood, and the wonderfully benign influence which is exerted on this disease by fresh air and nourishing food is better known, the disease is ceasing to be dreaded, and is beginning to be more successfully handled. Along with improved medical treatment, the surgery of the malady is changing, and the tuberculous areas which were formerly treated in the same radical manner as malignant growths, are now combatted by less strenuous methods; and in the place of excision, incision and partial curetting are done, the remaining disease being left to the healing power of nature.

Tuberculosis of the kidneys and testes has for some time past been treated by surgical methods, but it is only within the last ten or twelve years that tuberculous seminal vesicles and prostate glands have come into the province of the surgeon. Seminal vesicles were first excised by Ullmann in 1890, since which time cases have been reported by Villeneuve, Roux, Schede, Gueillot, Baudet and Kentdirdjy in Europe, and in America by Weir, Fuller, Bolton, Young and Hutchison. Other cases have been reported or mentioned in various journals, but I have been unable to find the original articles.

The immediate and remote results of these operations have not been good. The mortality due directly to operative interference has not been low, and the subsequent recurrence of the disease has destroyed the value of not a few so-called successful cases. The results of operation will probably improve when the technique is better understood, and the pathological condition present is more accurately known.

A case which has recently come under my observation is of special interest as illustrating the more conservative treatment of these organs.

P. P. was referred to me for treatment April 26, 1899.

History: Age, twenty-seven; father and mother living; none of his paternal or maternal ancestors had been afflicted with tuberculosis or other hereditary disease. The patient had been strong and healthy throughout the most of his life, and had no diseases except the usual ones of childhood. Five years ago he had a specific infection. According to his statement it yielded readily to treatment after six weeks, and has given no signs since. Three years ago,

after running fast for ten squares, he was much exhausted and felt a pain in the lower part of the right side of the abdomen. The next day there was marked swelling in the right testis, accompanied with severe pain and extreme tenderness. The patient was put to bed, treated in the usual manner, and after four days the trouble began to subside, but the organ continued swollen for several months. It attained the size of a small orange, but lost its tenderness and pain after ten days. Four months later he noticed that it began to diminish, and at the end of six months it returned, according to his recollection, to its normal size. Three months afterwards the lower inner part became swollen and tender, was firmer than normal, and remained so for about one month, when a softened area was found which broke and discharged a thin, serous pus. The discharge continued about four months, the remainder of the organ became involved very slowly, and he noticed a still further decrease in size. The sinus healed, and remained closed for some time, when it broke and discharged again. This has continued at intervals up to the present time. The other testicle has given no pain. There has been no frequent micturition or discomfort. He has had no cough, but for the past three months he has lost some flesh, and finds that he is easily fatigued.

Examination.—Patient apparently well nourished; five feet ten inches in height; weight, 138 pounds. He is slightly anemic; tongue clean; mucous membranes pale; heart and lungs negative; abdomen negative. In the lower right side of the scrotum the tissues are somewhat matted together; through the center of this, passing from about the middle of the anterior portion, is a small sinus which leads to an atrophied organ beneath. The organ is connected with the skin; it is firm, about the size of a hickory nut; it has wholly lost the character of the normal gland. Leading up from it the vas can be felt as a much thickened and indurated cord, about half the size of the little finger. On pressure the tissues are tender over that region. In the other side the testicle is free, but throughout the whole epididymis there is a hard, indurated tissue about the size of one's thumb, which in the center has softened and fluctuates. The testicle proper is somewhat softer than normal, and in some places gives a sense of fluctuation. There are no adhesions to the scrotum. The cord is uninvolved.

Rectal examination discloses on the right side an indurated condition of about one-half of the seminal vesicle, and the same hardening in the ejaculatory ducts. This indurated mass extends to and apparently enters the prostatic substance; on the other side the involvement is not so marked, but there is felt a distinctly hard infiltration about midway of the seminal vesicle which extends towards its apex. The ejaculatory duct is soft and uninvolved. The prostate is not enlarged, slightly nodular, but everywhere soft, and presents no suspicion of disease except as above mentioned, where the duct enters.

An endoscopic examination of the urethra discloses a hemor-

rhagic area in the posterior portion about four centimeters in front of the prostate; this is probably due to the remains of the specific urethritis. The prostatic portion is normal; the mouths of the ejaculatory ducts are normal.

Cystoscopic examination of the bladder showed a healthy mucous membrane except around the vesicle neck, which was somewhat congested. The orifices of both ureters are negative.

Urinalysis.—Pale, straw color; specific gravity 1.018; no albumen, no sugar; clear except a few long, fine threads; microscopically few epithelial cells, triple phosphates, urates, and a leucocyte here and there. Very careful examination was made for tubercle bacilli, but none were found except on one occasion, when three very suspicious-looking bacilli were seen. The catheterized specimens were always negative.

The patient was advised to undergo an immediate operation, but on account of some business affairs it was delayed two months. Then a complete operation was undertaken for the removal of the entire seminal vesicles, part of the prostate and one testis.

Operation July 27, 1899, by Dr. Finney: An incision was made in the right inguinal region to expose the cord; the right testicle was pulled up, and along with it the adherent diseased tissue, which was entirely excised. The incision was carried upward, and the abdomen was opened in the same manner as for ligation of the internal iliac. The cord was followed down, the bladder pushed inwards and upwards, and the seminal vesicles exposed. The peritoneum was opened twice, and was immediately closed. As it was found very difficult to expose the entire seminal vesicles without separating the bladder from the surrounding structures to a great extent, the patient was placed in a Trendelenberg position, and the perineum was opened in the median line. The incision was carried deeply down until the other opening was met. The cord was then pushed through this opening, and the vesicle was brought well into view and excised. A part of the prostate which was connected with it was also taken away, probably about one-third of the gland being thus removed.

Previous to the operation the patient had not agreed to the removal of both testicles, so in deference to his wishes one was left. His condition not being good, it was decided to curette the left seminal vesicle instead of completely removing it. This was done by incising it well up to its apex, after which it was thoroughly curetted, touched with pure carbolic acid and packed with iodoform gauze. The left testicle was incised, and found to be the seat of a moderate-sized abscess containing a thick, creamy-yellow pus, in which there were large quantities of flaky, cheesy material. The epididymis was practically obliterated by disease, and the organ much infiltrated. The cord was normal; there were no adhesions to the tunica. The diseased area was thoroughly curetted, touched with pure carbolic acid, and the whole packed with iodoform gauze. The abdominal wound was closed without drainage; the perineal opening was filled with gauze, three pieces of which

went well up into the right iliac fossa to the side of and posterior to the bladder. The operation did not cause much hemorrhage, but it was tedious and long, so that the patient's condition was not good. His extremities were somewhat cold; pulse 140; skin clammy. A retention catheter was inserted. He was put to bed, warm bottles were applied, and after about half an hour an infusion of one liter of salt solution was given. He rapidly reacted, and made an uneventful recovery. The temperature was not above 100°; the abdominal wound healed per primam; the perineal wound rapidly granulated and gave no complications; the gauze was gradually pulled out from both the perineal and the scrotal wound; the catheter was taken out after four days, and the bladder irrigated twice daily with boric solution. On the sixth day a urinary fistula developed through the perineal wound; this continued for five days and closed. The patient continued to improve, and was up after four weeks, at which time the wounds had nearly healed.

Six months afterwards he was examined by myself and the following condition was found: The perineal wound had entirely healed; the wound on the right side of scrotum had also healed; the left testicle was soft, in no place indurated or hard; free in the scrotum except over upper part of incision; nearly normal size; not tender or painful, and it gave the patient no discomfort whatever. A rectal examination revealed an entire disappearance of the disease which was present in the left side. The tissues are now everywhere soft, not sensitive nor painful, and, in fact, they show no evidence whatever of disease. His general condition has markedly improved, and he has gained twenty pounds in weight.

Urinalysis is entirely negative. The shreds which were previously noted have also disappeared. Micturition is normal.

Pathological Findings.—The right seminal vesicle was removed in small pieces; the pus found was rather thick, and contained large masses of cheesy bodies. The wall of the vesicle around this softened material was hard and infiltrated. The abscess cavity, which was formed by the wall of the vesicle, was palely hemorrhagic, very irregular on its surface, and covered here and there with a dusky-red granulation tissue. Immediately outside of this, on section, the tissue was whitish gray, rather densely fibrous; scattered here and there in this and in the outer portion, extending well into the vesicle wall, were small areas of tuberculous ulceration. The prostatic substance itself was uninvolved except where it had been penetrated by the ejaculatory duct. There was apparently some infiltration of the prostate; the ejaculatory ducts in this region were the seat of a hard, tuberculous infiltration, which at no place showed suppuration. The right testis had for the most part entirely sloughed away; the remaining mass was made up of a dense fibrous tissue, the center of which was connected with the external sinus. The cord was hard and infiltrated, increased in size to one-half that of the little finger, lumen obliterated. Left testis: epididymis, outer portion thickened, hard; inner part formed the

lining of an abscess which extended into the testicular substance. Here and there were smaller foci of suppuration. Microscopically the tissues presented a distinct and typical tubercular appearance. No bacilli were found.

This case is of interest in that it shows one-half of the disease radically treated, the other half conservatively treated. It was undoubtedly a case of tuberculosis, as was shown in the pathological examination. One point which I will especially emphasize is the combination of the inguinal and the perineal incisions, in cases where complete excision is attempted. This allowed very much better working room, permitted a more careful dissection, brought the parts better into view, and, last and most important of all, permitted perineal drainage through which the discharges naturally go, whereas in the inguinal alone the bladder must be more extensively separated from the surrounding tissues and a very much larger wound made. This, of course, necessitates leaving large and deep pockets, which are practically almost impossible to drain. A careful examination of the results of operations which have been done by this method alone will show that the mortality has not been low.

I wish to emphasize most especially, another fact; that, given a healthy subject, a proper assistance on the part of the surgeon will permit nature to overcome the disease. In the above case we had an undoubted tuberculosis in the right seminal vesicle, and a very advanced disease in the left testis. Both of these were simply opened and curetted, and in both we have, after six months, complete healing. The patient's condition has also improved, so that he is entirely strong and robust, and has gained thirty pounds in weight.

The result of this one case, of course, proves very little; but it adds some evidence in favor of conservative surgery.

BIBLIOGRAPHY.

Baudet et Kentdirdjy: Rev. Gen. Gaz. des Hop., 1898.

Percy Bolton: Journal of Cutaneous and Genito-Urinary Diseases, December, 1899.

Fuller: Journal of Cutaneous and Genito-Urinary Diseases, October, 1896.

L. Longuet: "Traitement Chirurgical de la Tuberculose Genitale chez l'Homme," Revue de Chirurgie, Vol. XX, January, 1900, p. 79.

Hutchinson, James Alexander: Annals of Surgery, Vol. XXXII, No. 4, October, 1900, p. 567.

Gueillot: Presse Med., April 2, 1898.

Roux: Congrès francais de chirurgie, 1801.

Schede: Soc. Med. de Hambourg, 1898.

Ullman: Centralbl. f. Chir., 1890, p. 137.

Villeneuve: Congrès de Marseille, 1891.

Weir: Medical Record, 1895.

Young: Annals of Surgery, Vol. XXXII, No. 4, October, 1900.

A REVIEW OF SOME OF THE RECENT WORK ON THE PHYSIOLOGY AND PATHOLOGY OF THE BLOOD.

By Thomas R. Brown, M.D., Baltimore.

(CONTINUED FROM DECEMBER, 1900.)

III. THE BLOOD AT DIFFERENT PERIODS OF LIFE, AND THE DIFFERENTIATION OF HUMAN BLOOD FROM THAT OF ANIMALS.

Schwinge (*Arch. f. Physiologie*, LXXIII, parts 7 and 8, p. 290) used the Thoma-Zeiss and von Fleischl instruments in comparing the blood at different periods of life, and came to the following conclusions: The red-blood cells, hemoglobin and white-blood cells differ in different parts of one's life, the red-blood cells and hemoglobin being greatest immediately after birth, shortly afterwards sinking to a minimum, and then increasing with age, with periodic fluctuations at the time of puberty, again to decrease towards the end of life, while the white-blood corpuscles, on the other hand, steadily decrease in number from the time of birth to puberty, later increasing again. As to sex, the number during puberty is less in women than in men.

Däubler (*Vjhrschr. f. gerichtl. Med.* 1899, XVIII, 2, p. 258) concludes from his measurement of red-blood corpuscles in men and in animals that the differences are too small to allow us to determine whether the blood is human or not. In dogs the average was 7.9 to 8 m., and the variations from 7.2 to 9 m.; in rabbits, average 7.68 m., variation 6.5 m. to 8.1 m.; in guinea-pigs 7.68 m. was the average, and 5.8 m. to 8.1 m. the variation; in man, average 8, 8.1, 8.2 m., and in a twelve-year-old girl 7.8 m.

IV. THE INFLUENCE OF EXPOSURE TO COLD AND OF HIGH ALTITUDES UPON THE CONSTITUTION OF THE BLOOD.

(a) *After Exposure to Cold.*

Reineboth (*Centralbl. f. Inner. Med.*, 1900, No. 3) and Reineboth and Kohlhardt (*Deutsch. Arch. f. klin. Med.*, LXV, parts 1 and 2), from experiments upon rabbits, exposing them in cold (2° C.) water for five minutes and estimating the hemoglobin and blood cells at frequent intervals, found that in all cases there was a diminution in hemoglobin, red-blood cells and white-blood cells, lasting several days. Successive immersions always produced again a considerable decrease. Spectroscopically it was shown that there was a tendency to hemoglobinemia.

Grawitz (*Centralbl. f. Inner. Med.*, November 18, 1899) combats these views, saying that Reineboth and Kohlhardt's mistake was in taking the blood from veins in which the circulation was slowed by constriction. Grawitz repeated his earlier experiments, dropping rabbits into ice water and then taking the blood from the unconstricted veins, and was unable to detect any evidence of hemo-

globinemia, although there was an increase in the specific gravity of the blood, which he regarded as being due to a transudation of lymph from the capillaries. Much of the effect of the cold bath followed by the warm douche Grawitz believes to be due to this exudation of serum into the tissues and subsequent return to the vessels by the application of warmth.

(b) *The Influence of High Altitudes.*

Meissen and Schröder (*Münch. med. Wochenschr.*, XLIV, Nos. 2, 3 and 4) in 1897 called attention to the increase in red-blood corpuscles and hemoglobin both in consumptives and in healthy people after removal to high altitudes. In the case of consumptives they explain the greater number of corpuscles by the statement that in tuberculosis of the lungs there is present a chronic stasis in the small circulation. They did not, however, attempt to explain the occurrence of this condition in healthy people.

Gottstein and Schröder (*Berliner klin. Wochenschr.*, July 2, 1900) believe from their experiments that the Thoma-Zeiss apparatus is under the influence of atmospheric pressure, and that the high blood-counts in mountain elevations are due to such external physical conditions.

Solly (*Philadelphia Medical Journal*, 1900, I, p. 1074) comes to different conclusions. He studied the blood in twenty-five cases, and concluded that in people going to Colorado the red-blood corpuscles and hemoglobin at once increased quite above that of the natives, but in those who had been there for two or more years the blood-count shows an intermediate position, which would seem to indicate that the climate soon loses its marked beneficial effect upon the blood.

V. The Anemias, Including Leukemia.

The subject of anemia has received a great deal of attention during the past few years, perhaps more than any other subject in hematology. For convenience we have subdivided this subject into (A) pernicious anemia, chlorosis and secondary anemia, and (B) spleno-myelogenous and lymphatic leukemia, pseudo-leukemia and splenic anemia.

(A) *Pernicious Anemia, Chlorosis and Secondary Anemia.*

Lipowski (*Deutsch. med. Wochenschr.*, May 24, 1900) directs especial attention to the great difficulty in determining the exact nature of the anemia in certain cases. He thinks that a severe anemia, finally leading to the death of the patient, where no primary cause of the anemia can be made out intravitam or post-mortem, must be considered a case of pernicious anemia, even if the characteristic structures in the blood cannot be found. He reports a case in point where the blood showed no nucleated red-blood corpuscles and 90 per cent. of the white-blood cells were lymphocytes. He thought that this picture was found because the bone-marrow was unable to react to any stimulus. He reports another case where all the symptoms of pernicious anemia were present, where both red-blood cells and hemoglobin were markedly reduced (to

800,000 and 10 per cent., respectively), and yet where no nucleated reds were to be found in the blood, and only a few microcytes just before the end. He also mentions an interesting case where there was a diminution in hemoglobin and red-blood cells, and the white cells were markedly increased (1.18 as compared to the red-blood cells), with numerous nucleated red-blood cells and some myelocytes, the picture markedly resembling a leukemia. He mentions another case with a somewhat similar blood-picture where a carcinoma of the liver was found.

Descatello and Hofbauer (*Zeitschr. f. klin. Med.*, XXXIX, p. 488) discuss at length the subject of leukopenic anemias. As is well known, a diminution in leucocytes has been noted in typhoid fever, malaria and measles, but these investigators found it also in five cases of pernicious anemia, four of chlorosis, two of post-hemorrhagic anemia, two of liver cirrhosis, one of phthisis floridans, one of sepsis with severe anemia, three severe anemias of unknown origin, two of pseudo-leukemia and two of splenic anemia. These cases could be subdivided into two groups, (1) those in which the anemia was not associated with glandular swelling, and (2) those in which disease of the glands (spleen or lymph glands) was also present. In the first group the percentage of the lymphocytes was constantly higher and of the polymorphonuclear neutrophiles lower than normal, while in the second group the relation was variable. Descatello and Hofbauer believe with Ehrlich that the leukopenia is due to an injury to all the places of blood formation, especially the marrow. They do not regard it as such a bad prognostic sign as Ehrlich does, believing that it is an evidence of functional rather than of organic trouble.

(a) *Pernicious Anemia.*

Stengel (*Medical News*, October 20, 1900) regards pernicious anemia as a disease resulting from the rapid destruction of the blood corpuscles which the blood-forming organs cannot replace. He thinks that the gastro-intestinal tract is evidently the source of the hemolytic agent, while in some cases it seems possible that the hemogenetic function of the bone-marrow is perverted. He regards it more as a systematic disorder of the blood than as a distinct disease. He disagrees with Ehrlich, who thinks that the association of megaloblasts with megalocytes is pathognomonic, as he observed the same condition in two cases of leukemia during the aleukocytic period; in fact, according to Stengel, there is really no pathognomonic symptom. The prognosis is hopeless, but prolonged remissions may occur.

Hunter (*Lancet*, January 27, 1900) believes, from the fact that carious teeth are frequently seen in this disease, as well as inflammation of the mouth and tongue and gastric symptoms, that pernicious anemia is a toxemia, the result of an infection of the digestive tract, especially the mouth and stomach, and chiefly due to carious teeth. He recommends as treatment for pernicious anemia the use of antiseptics in the mouth and digestive tract.

Elder (*Lancet*, April 28, 1900), carrying out this suggestion, treated a case of what he supposed to be pernicious anemia of six months' duration with antistreptococcus serum (10 c. cm. hypodermically every other day) and antiseptic mouth washes. According to Elder, in six weeks the red-blood cells increased from 1,962,500 to 4,800,000, and the hemoglobin from 44 per cent. to 104 per cent.

One cannot help feeling that in Hunter's suggestion cause and effect seem likely to have changed places, while Elder's case will be of much greater interest if followed by others of like nature and like result.

Barker and Hunter (*Lancet*, July 21, 1900) report a fatal case of pernicious anemia consecutive to a traumatic stricture of the small intestine, in which the red-blood cells fell to 1,000,000 and the hemoglobin to 20 per cent., while megalocytes and microcytes, but no nucleated red-blood cells, were found in the blood. The fact that there were 54,000 white-blood corpuscles at the time of the first count, however, suggests that the case might have in reality been one of infection, associated with a severe anemia.

Abrams (*Medical Record*, April 28, 1900) reports two cases apparently of progressive pernicious anemia in which the gastric symptoms were so marked as to make a diagnosis of gastric carcinoma seem probable. The blood-count in the first case was 1,000,000 reds and 40 per cent. of hemoglobin. Both improved immediately and progressively on arsenic.

Theodor (*Wiener med. Wochenschr.*, No. 13, 1900) reports an interesting case of typical pernicious anemia in a boy eleven years old, in which the blood was typical and death occurred in a few weeks.

Von Voss (*Deutsch. Arch. f. klin. Med.*, LVIII, p. 489) found the following lesions in the spinal cord in three cases of pernicious anemia: Degeneration of the posterior root columns (columns of Goll and Burdoch) increasing as one descended, except the zone of Lissauer, which was unaffected; degeneration of both pyramidal tracts and the cerebellar tract; in the gray substance small hemorrhages and hyaline degeneration of the vessels. From experiments made upon animals by the injection of blood-destroying substances (especially pyrodin) von Voss concluded that the spinal-cord changes are due to the disturbances of metabolism resulting from the anemia, and not from the anemia itself.

Muir (*British Medical Journal*, September 29, 1900) reports a most interesting case of anemia, evidently pernicious, in a boy of fourteen years, with a very acute course, death occurring in eleven weeks, in which the hemoglobin was reduced to 11 per cent., the reds to 800,000, with no megalocytes and no nucleated reds. Post-mortem a marked deficiency in red bone-marrow was found.

(b) *Chlorosis.*

Ischeroff (*Jahrb. f. Kinderheilk.*, XLV, 4, p. 393, and XLVI, 1 and 2, p. 153) thinks that in children chlorosis is frequently due to an autointoxication from the intestinal tract, and that with the cure

of the latter the blood improves. In occasional cases the liver, spleen and lymph-glands are affected by this intoxication.

Leichtenstern (*München. med. Wochenschr.*, 1899, No. 48) has observed spontaneous venous thrombosis eight times during a half-year in simple chlorosis, and therefore calls attention to the frequency of this dangerous complication. In the statistics which he quotes of fifty-two cases of chlorotic thrombosis of the extremities pulmonary embolism occurred in ten, nine of which resulted fatally. The thrombus usually develops without any apparent cause, and is generally associated with a rise of temperature.

The factors which Leichtenstern regards as of importance in this connection are the poor propulsive power of the chlorotic heart, the nutritional disturbance (especially its effects upon the intima of the blood-vessels), and the increased coagulability of the blood, due to increased blood destruction.

Hofmann (*München. med. Wochenschr.*, 1899, No. 29) believes that chlorosis is due to an acquired or inherited hyperplasia of the bone-marrow, which manifests itself in the production of erythrocytes of less size and hemoglobin content than normal.

Grawitz (*Therapie der Gegenwart*, June, 1900), in discussing the treatment of chlorosis, after calling attention to the many nervous symptoms and disturbances seen in chlorosis, and not in other anemias, and to his belief that the disease is rather part of a general neurosis than a primary blood disease, insists upon the removal of the cause of this neurosis, if possible, by diet, change of air, and often by removal and isolation of the patient, the use of wet packs, etc. Milk should be the chief diet, unless the patient is very fat. The preparation of iron Grawitz prefers is the liquor ferri perchlorhidi.

Jolasse (*München. med. Wochenschr.*, 1899, No. 37) insists that besides rest and overfeeding, iron is necessary. He recommends suppositories of iron citrate (.1-.6 grammes to 50 grammes of starch three times daily).

Terrile and Curlo (*Clin. med. ital.*, 1899, No. 10) found an increase both of red-blood cells and hemoglobin after the subcutaneous injection of iron, while after subcutaneous injection of arsenic there was frequently an increase of white-blood cells, often of the red-blood cells, but never of the hemoglobin.

(c) *Secondary Anemia and the Treatment of Anemia in General.*

Ewart (*Therapie der Gegenwart*, November, 1899) describes a case of puzzling anemia which was finally traced to completely ignored hemorrhoidal nodules high up in the rectum, the external portions being normal and the patient with absolutely no suspicion of his hemorrhoidal tendency. This undoubtedly is a case of great interest, and a more careful consideration of this point may help to clear up some, at least, of the hitherto unsolved cases.

Monod (*Gaz. hebd. de Med. et de Chir.*, March 18, 1900) lays especial stress upon the prevalence of anemia in syphilis. He thinks it is one of the earliest manifestations of the infection, preceding the roseola and associated with a leucocytosis which is generally

the last of the blood changes to disappear. According to Monod there is an absolute concordance between the anemia on the one hand and the appearance of the specific symptoms on the other, as well as a direct relation between the grade of the anemia and the intensity of the specific infection.

Giles (*British Medical Journal*, September 1, 1900) thinks that in anchylostomiasis the anemia is not due to the loss of blood alone, but also probably to the damage to the mucous membrane of the duodenum and to some poison secreted by the parasite. In comparing the anemia in anchylostomiasis with that in malaria he found that in the former the color index was always under .4; in uncomplicated malaria always above .5.

Kaminer and Rothstein (*Berliner klin. Wochenschr.*, July 30, 1900) have used phenylhydrazin in producing experimental anemia, their object being to produce a blood-picture similar to that in pernicious anemia. After doses large enough to kill in forty-eight hours the red-blood corpuscles were reduced to 1,000,000 or lower; macrocytes, fragmented and polychromatophilic red-blood cells were present, as well as normoblasts, and a few megaloblasts. There was a moderate leukopenia. By using smaller doses a chronic anemia could be produced, with reduction of red cells, presence of macrocytes and a few nucleated reds, but no poikilocytes; usually there was a leucocytosis.

Senator (*Berliner klin. Wochenschr.*, July 23, 1900) advises that the urine should be examined in all doubtful cases of anemia for the possibility of an albumosuria, which would suggest malignant growth of the bone-marrow. In the treatment of chlorosis he pays especial attention to the gastric catarrh, administering either hydrochloric acid, or alkaline or chalybeate mineral waters, in association with the ethereal tincture of the chloride of iron, or ferrated ammonium chloride. Sometimes hydrotherapy proves of value. In the treatment of mountain anemia (anemia montana) Senator insists that the only sensible treatment is to make the patient return to a lower altitude.

Aporti (*Centralbl. f. inner. Med.*, January 13, 1900) believes he has shown by animal experiments, bleeding, cutting out all forms of iron from the food, etc., that the production of hemoglobin and red-blood cells depends upon different factors, the former being increased by the injection of iron, the latter being increased by the injection of arsenic.

Chirone (*Gazz. degli Ospedali e delle clin.*, No. 88, 1899) opposes vigorously Marfori's views that ferratin is the best preparation of iron. He finds the inorganic preparations of iron much better.

(B) *Spleno-myelogenous and Lymphatic Leukemia, Pseudo-leukemia and Splenic Anemia.*

(a) *Leukemia.*

The most interesting work on leukemia has been that done in connection with Löwit's assertion that he has found a distinct parasite, the hemameba leucemica.

Löwit (*Wien. klin. Wochenschr.*, No. 20, 1898) describes in detail this supposed sporozoon, which he says was found by him in eleven cases of mixed leukemia, three of lymphemia (lymphatic leukemia) and two cases of leukemia only examined post-mortem. As the number of his so-called sporozoa was greater in the leucocytes of the spleen than in those of the peripheral circulation, he thought that the spleen, and probably also the other blood-forming organs, were the places wherein the parasites developed. In the mixed leukemia the parasites were found in the spleen, bone-marrow and lymph glands, while in the lymphatic leukemia, though not present in the circulating blood, they were found in the hematopoietic organs. He therefore describes two varieties of parasite—the one is found both inter- and intracellular in the blood-forming organs and in the circulating blood, and is the one seen in mixed (spleno-myelogenous) leukemia; the other is found only in the blood-forming organs, is always intercellular, and is the one seen in pure lymphemia (lymphatic leukemia). So far all attempts to cultivate the protozoon have proven unavailing.

Turk (*Wien. klin. Wochenschr.*, March 29, 1900) believes that the supposed protozoon of leukemia described by Löwit is nothing more than an artefact composed of "Mastzellen" granulations, and he claims to have obtained them in normal rabbits' blood, in normal human blood, and in the blood in lues, anchylostomiasis, carcinosis and other diseases, by Löwit's method of staining, but no other method.

Löwit (*Wien. klin. Wochenschr.*, April 5, 1900) denies this, without, however, adducing any further facts in support of his view.

Vittadini (*Gazz. degli Ospedali*, No. 63, 1900), from his work at the Pathological Institute at Pavia, also disagrees with Turk, claiming to have found Löwit's hemameba in the nucleus or in the adjacent cell protoplasm in three cases of leukemia. He never found these forms in the healthy blood or in the blood in other infections. The burden of proof, however, certainly lies with Löwit and his followers.

Gilbert and Weil (*Arch. de med. exper.*, 1899, p. 157) add three new cases of acute leukemia to the sixty-odd cases hitherto reported. Death occurred in these three cases in seven weeks, one month, and fifteen days, respectively. A close relationship seems to exist between acute and chronic leukemia, the latter sometimes going over into the former, although the reverse has not been observed. In the acute leukemia, in opposition to the chronic form, there is a marked cellular proliferation of all the hematopoietic organs.

McCrea (*Johns Hopkins Hospital Bulletin*, May, 1899) reports a case of acute leukemia in a child three years of age, death occurring in four weeks, and the blood containing 26,000 white-blood cells, of which 87 per cent. were lymphocytes, and with neither myelocytes nor nucleated reds present. He has collected thirteen other cases of acute leukemia in children from the literature. He also (*British*

Medical Journal, March 31, 1900) reports an interesting case of spleno-myelogenous leukemia, with disappearance of the splenic tumor and of the myelocytes from the blood under the administration of arsenic and general tonic treatment. The leucocytes when the patient was first seen numbered 584,000 per c. mm., of which 23 per cent. were myelocytes; three months later there were but 9250 leucocytes per c. mm. and no myelocytes. Both cases were from Osler's clinic.

Pappenheim (*Zeitschr. f. klin. Med.*, XXXIX, p. 171) reports two cases of lymphemia without glandular swelling from Lichtheim's clinic; the first an acute case, with slight swelling of the spleen and cervical glands only, but typical lymphadenoid degeneration of the bone-marrow; the second a chronic case, with the clinical picture of pernicious anemia, but also with lymphadenoid degeneration of the bone-marrow. Pappenheim agrees with Neumann as to the nature of leukemia, both believing, as regards the origin, that the disease only arises if the bone-marrow yields to some pathological stimulus. Thus if the red-marrow parenchyma is unchanged we get myelogenous leukemia; if the marrow is substituted by lymphoid tissue, a lymphemia; while if the faulty stimulant affects only the spleen or the lymph glands, where the capsule is capable of being stretched and thus of growing with the gland, no cell-elements enter the circulating blood, and there arises pseudo-leukemia. This view is, of course, directly opposed to that of Ehrlich.

Kormoczi (*Deutsche med. Wochenschr.*, No. 47, 1899) discusses in an interesting manner the influence of infectious diseases upon leukemia. From the case he reports, and from a survey of the literature upon this point, he concludes that the diminution in size of the splenic tumor and in number of the white-blood cells is explained by the destructive action of the bacterial toxins upon the tissues, while the qualitative changes in the blood depend upon the chemotactic properties of these toxins. In different cases these two factors act very differently, so that in some the destructive, in others the chemotactic, action of the toxins is more marked. In the latter case the total number of white-blood cells in the blood may remain unchanged, while the relative proportions of the different varieties of these cells may change markedly. The influence of the bacterial toxin on the red-blood corpuscles is slight.

These changes in leukemia have been described during the course of intercurrent typhoid, influenza, erysipelas, and especially septic infections.

Kraus (*Prager med. Wochenschr.*, Nos. 41 and 42, 1899) reports an interesting case of spleno-myelogenous leukemia where the splenic tumor and the increase of the white-blood cells (360,000 per c. mm.) entirely disappeared during an intercurrent general infection following an attack of erysipelas.

(b) *Pseudo-leukemia, Splenic and Lymphatic Anemias.*

Many authors regard all three of these conditions as but different manifestations of the same disease—pseudo-leukemia or Hodgkins' disease. Banti, however, insists that splenic anemia or splenomegaly should not be considered as the splenic type of Hodgkins' disease, but a separate disease characterized by four distinct stages—of enlargement of the spleen, of anemia, of transition, and of ascites. He recommends splenectomy (*Beitrage zur patholog. Anat. u zur allg. Pathol*, XXIV, part 1).

Osler (*American Journal of the Medical Sciences*, January, 1900) reports fifteen cases of splenic anemia—twelve men and three women—in some of which the disease had lasted from five to twelve years. In all cases splenic enlargement seemed to precede the anemia; hemorrhage, especially from the stomach, was noted in some cases, and ascites in three. There was no enlargement of the lymph glands; the anemia varied from a slight pallor to the highest grade, and six cases showed melanoderma, which in some at least might have been accounted for by the use of arsenic. The blood showed a relatively high count of red corpuscles, a relatively low count of hemoglobin; in six cases there was marked leucopenia. In making a diagnosis Hodgkins' disease, pernicious anemia, splenic leukemia, malarial cachexia, cirrhosis of liver, with enlarged spleen, and splenic malignant growth must be excluded.

Türk (*Wiener klin. Wochenschr.*, 1899, No. 40) makes a plea for a more scientific nomenclature for the various pseudo-leukemias, suggesting "lymphomatosis partialis," "lymphomatosis universalis," "lymphomatosis destruens" and "lymphosarcomatosis," according to the pathological process present in the individual case.

Stein (*Therapeut. Monats.*, 1899, No. 10) gives a careful description of the anemia infantum pseudo-leukemica originally described by von Jaksch. The condition is characterized by anemia, usually enormous enlargement of the spleen, slight swelling of the liver, lack of glandular swelling, and much emaciation. The blood usually shows an enormous number of normo- and megaloblasts, and a quite marked leucocytosis. This latter is less than that seen in leukemia, and also lacks the characteristic forms of blood-cells seen in the latter disease. The disease usually affects children in their first year, and is frequently complicated by rickets. The prognosis is better than in leukemia.

MacGregor (*Lancet*, September 29, 1900) describes a form of anemia not uncommon in children which he calls lymphatic anemia, and which he believes is never met with in adults. Differential counts made by him show from 12 to 13 per cent. of lymphocytes, 20 to 39 per cent. of large mononuclears, 41 to 63 per cent. of polymorphonuclear neutrophiles, and 2 to 7 per cent. of eosinophiles. It is difficult from MacGregor's article to see how he was able to rule out tuberculosis or syphilis of the glands in these cases.

(*To be continued.*)

Current Literature.

SURGERY.

Under the Direction of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

Non-Cancerous New Growths of the Stomach. V. Hacker. *Centralbl. f. Chir.*, No. 41, 1900.

Those tumors arising from the connective tissue or smooth muscle of the stomach wall furnish an entirely different group of clinical symptoms from the carcinomata. They form, as a rule, much larger growths, and very frequently on clinical examination mistakes are made as to their origin and location. The diagnosis of neoplasm of the omentum, mesentery, liver, kidney, spleen, etc., is often erroneously made.

In these cases there are either no stomach-disturbing symptoms present or only those which might be explained by a tumor pressing upon the stomach. The growth is generally outward from the greater or lesser curvature, but in those cases in which the tumor involves the region of the pylorus it can lead to stenosis, with the resulting symptoms typical of cancer of that region.

These tumors are most commonly myomata or fibromyomata, but sarcomata and myxomata are found. The differential diagnosis between these various forms is often hard to make, and is of particular importance in those cases where the growth hangs free in the abdominal cavity, as it is necessary to resect a portion of the stomach wall if the neoplasm is malignant, but only to enucleate if not.

Von Hacker demonstrates a patient twenty-six years old, in whom twenty-two months before a stomach resection had been done for a tumor the size of a man's head, which grew from the lesser curvature. At the operation it was doubtful whether he had to deal with a pure myxoma or a myxo-sarcoma. The microscope, however, showed a pure myxomatous growth, and twenty-two months after the operation the patient was free from any sign of recurrent tumor.

* * *

Lung Affections After Operations. M. Gerulanos. *Deutsch. Zeitschr. f. Chir.*, October, 1900; *Jour. Amer. Med. Asso.*, December 22, 1900.

Out of ninety-five deaths in Helferich's surgical clinic at Kiel during 1899, pulmonary complications were observed in eighteen. In seven of these the lung affection was evidently directly connected with the operative intervention.

After a study of these and reports from other clinics pulmonary complications were found to be as frequent after infiltration

anesthesia as after general. The violent emotions which the patient undergoes are thought to be an important cause in cases where local anesthesia was used. The insensible aspiration of particles from the mouth probably occurs more abundantly during such excitement. Emboli may also be the cause, but hypostasis from the continuous reclining posture and abdominal tympanites interfering with respiration is the most important cause.

To prevent these complications the position of the patient should be frequently changed, all restricting chest and abdominal bandages should be removed, and the patient urged to breathe deeply. Tympanites should be avoided by purgatives, etc. If bronchial symptoms pre-exist, a mild expectorant should be given. The patient should not be allowed to be chilled at the operation, as this is an important factor in producing pulmonary troubles. At Kiel the extremities are often packed in cotton for the purpose. (Kocher uses an operating table, the top of which is filled with hot water, and at St. Thomas' Hospital broad, flat cans are placed beneath the patient to maintain the body temperature during operations.)

For minor operations infiltration anesthesia is preferable, but for major operations the patient's distress of mind is more injurious than the shock of general narcosis. Chloroform is generally the more acceptable anesthetic, and ether should be used only exceptionally, and then only for strong patients, on account of its more intense and injurious action on the lungs and circulation. The head should be lowered to prevent aspiration of secretions from the mouth.

* * *

Anesthesia When Respiratory Impediment Exists. Buxton. *Lancet*, June 16, 1900.

In anesthesia there are two forms of circulatory failure—a primary and a secondary, the former not being preceded by any interference with respiration. The latter, however, may be taken to mean a circulatory depression consequent upon interference with the functions of respiration.

Obstructions to breathing are various—adenoids, enlarged tonsils, pharyngeal abscess, enlarged tongue, pharyngeal adhesions, goitre, angina Ludovici, lymphadenoma, and adenitis, etc.

The individual patient possesses a certain respiratory power. Individuals differ enormously in this respect, and it is the business of the anesthetist to make himself acquainted with what may be termed the personal respiratory equation of the patient. This individual power of respiration is interfered with by every form of anesthesia, more by some than by others. It may be of little consequence under normal conditions, but it becomes a factor of grave danger should any intercurrent cause of respiratory obstruction exist. "Every person must be treated as a problem. Given the patient, find the best anesthesia and the most suitable way of administering it." In a weakly child in which tonsilotomy

was to be performed, ether was chosen, because the child was in the upright position. In goitre cases chloroform was chosen, because the secretion of mucus, which is always very abundant with ether in these cases, is less with chloroform, and because they pass under the influence of chloroform more easily. The chloroform should never be given intermittently. Junker's inhaler is the preferable one, but if this is not used, the drop method, with Schimmelbusch's mask, is the best.

* * *

CULTURE OF THE BACILLUS OF CHANCROID. Bezauçon, Griffon and Le Sourd. *La Presse Medicale*, December 12, 1900.

The authors have successfully grown the bacillus of Ducrey on artificial media. They have taken pus from the initial lesion, from a lesion at inoculation, and from the chancroidal bubo, and succeeded in cultivating the organisms on media composed of rabbit's blood and agar.

Their description of the bacillus agrees with that given by Ducrey of the organism which he first claimed as the specific cause of chancroid. The colonies appear in twenty-four hours, and are fully developed at the end of forty-eight hours.

All attempts at cultures on the ordinary media have failed, even after accustoming the bacillus to cultivation on the blood agar.

The vitality of the organism lasts through many generations. It was found active after eleven transfers.

The entire report is very meager, too few details being given, and is most disappointing in regard to the bubo cultures, or rather culture, because apparently only one has been grown, and the authors do not dwell at any great length on even this one. The brevity of the descriptions does not justify us in accepting too readily the results recorded, and we hope that another and fuller report is soon to follow.

* * *

THE DIAGNOSIS OF TUMORS OF THE TESTICLE. Duplay. *Centralbl. f. Chir.*, No. 48, 1900.

There is often considerable difficulty in diagnosticating tumors of the testicle, particularly as between chronic vaginalitis and neoplasms.

At a certain stage no certain diagnostic features are present; neither the history, nor any other sign, such as pulsation of the spermatic artery, dilatation of the cutaneous vessels, function, palpation, etc., furnishing the differentiation.

Many cases occur in which operation alone can settle the question. Enlargement of the lymphatic glands and ulceration, of course, render the diagnosis easy. In malignant testicular tumors castration is contraindicated when lymph-gland metastases exist or when both testicles are involved, particularly in young subjects.

Although the operative results so far show a very poor prognosis, still castration should always be tried if metastases have not occurred.

Primary Carcinoma of the Pancreas, with Reports of Four New Cases. Frederick A. Baldwin, M.D. *Phila. Med. Jour.*, December 22, 1900.

The author has brought together, by means of the *Index Medicines*, fifty straggling cases of primary carcinoma of the pancreas, and adds them, together with four of his own, to those already systematized. In about 42 per cent. of cases the disease of the pancreas is carcinoma, either primary or secondary. Regarding the frequency of primary carcinoma of the pancreas as compared with primary carcinoma elsewhere, it occurs about in the proportion of 1.9 per cent.

Etiology.—In general it does not differ from primary carcinoma in other organs; 65 per cent. is in males; age, between forty and sixty years.

Morbid Anatomy.—Primary carcinoma of the pancreas is found most frequently in the head, next in the body, and least often in the tail.

Regardless of the situation of the tumor mass, primary carcinoma of the pancreas may arise by atypical cell-proliferation either from the epithelium lining the collecting ducts, or the acinous cells, or the epithelial cells of the areas of Langerhans. It is interesting to note that those arising from the areas of Langerhans usually pass through the stage of adenoma.

The usual form is the scirrhus, although a few medullary and adeno-carcinomata are reported. Secondaries are not common except in the neighboring lymph glands and in the liver. In the author's fifty cases there were no metastases in 20 per cent., liver involvement appeared in a little over 20 per cent., the neighboring lymph glands were diseased also in about 20 per cent., and in the remaining 40 per cent. of cases the secondary condition was found in different and more distant localities.

Symptoms.—The symptoms are of such a character as to be of little diagnostic value. They are pain in the abdomen, perhaps localized in the upper region paroxysmal, and often cutting in character, progressive, and usually rapid emaciation, jaundice and diarrhea, though constipation may occur. Stomach symptoms are often so common and pronounced that the real disease is overlooked.

Physical examination usually reveals little. An appreciable tumor in the region of the pancreas can be felt in some cases. The stools show a large amount of undigested fat. One is struck by the fact that the examination of the urine in so many cases shows no sugar, the probable reason being that the course of the disease is too short to allow diabetes to develop.

The author then reports four new cases. He goes quite fully into the microscopic findings in each case, and concludes that the first and second are primary adeno-carcinomata arising from the acinous cells, and that the third and fourth are cyst adeno-carcinomata arising from the areas of Langerhans.

PATHOLOGY AND BACTERIOLOGY.

By José L. Hirsh, M.D., Baltimore.

Hemorrhagic Infection in an Infant Due to the Typhoid Bacillus. George Blumer. *Journal American Medical Association,* December 29, 1900.

The author, in reviewing the literature of this somewhat rare class of cases, finds that there are but eight or nine positive cases of congenital typhoid fever on record. In all the cases the infection occurred in children born at the time that the mother was actually suffering from an attack of typhoid fever; most of the children were born dead, and the diagnosis rested on bacteriological findings, the typhoid bacilli being constant in the spleen, and frequently present in the blood.

Blumer reports the following case: The mother of the child was in perfect health at the time of its birth, but she had been ill four and one-half months previously with typhoid fever. Child was born at term, after a difficult labor. Three days after birth child had a slight convulsion after nursing. On the fifth day some spots of blood were noted on the child's diaper. The blood came from the vagina. The hemorrhage increased until the eighth day, when death ensued. Before death there also developed slight bleeding from the gums and a petechial eruption over the forehead. Autopsy performed nine hours after death showed dried blood on the gums and about the vulva; mesenteric glands markedly hemorrhagic; bladder shows hemorrhage beneath the mucous membrane; in the vagina, submucous hemorrhage. No signs of hemorrhage in upper part of small intestine. In ileum solitary follicles are swollen, some of them hemorrhagic. All through the large intestine the solitary follicles are swollen; many of them contain hemorrhages.

Cultures taken from the lung, spleen, bile and umbilical cord show the presence of the typhoid bacillus. Likewise the typhoid with the colon bacillus is present in the large intestine.

This case differs from others reported in the fact that the child was born not while the mother was in an attack of typhoid fever, but four and one-half months later. The question therefore arises whether this is a case of congenital typhoid fever. The author points to the fact that either the typhoid bacillus was present in the mother's circulation for four and one-half months after the attack, and only gained entrance to the blood of child shortly before birth, or that it was transmitted to the child at the time of the mother's attack, and remained latent in the tissues until just before birth. The latter probability would seem more likely on account of the fact that the typhoid bacillus is seldom found in the blood of adults in any number.

A Method for the Demonstration of a Capsule in all Varieties of Bacteria. Scilio Boni. *Centralbl. f. Bak.*, Bd. XXVIII, No. 20.

A fluid, consisting of the white of an egg, 50 cm. glycerine and two drops of formalin, is well shaken and filtered. This fluid remains sterile for some time. One drop is put on a slide, and a loop of agar culture of the organism is mixed with it and spread out in a thin layer. In order to dry the preparation thoroughly it must be passed through the flame until the formation of a white cloud ceases. Then cover the slide with carbol-fuchsin (Ziehl's solution), which is left for thirty seconds; wash in water and mount in Canada balsam. Double staining, the capsule red and the body of the organism blue, may be accomplished as follows:

1. Spread the bacteria on the slide in the above-mentioned fluid; dry until the glycerine has evaporated.
2. Stain with carbol-fuchsin twenty to thirty seconds.
3. Wash with water; dry with filter paper.
4. Stain with Loeffler's methylene-blue four to six minutes.
5. Wash with water; dry and mount in balsam.

With this method Boni demonstrated a capsule in the following micro-organisms: Sarcina flava, Sarcina alba, B. subtilis, B. mycoides, B. megatherium, B. acidi lactici, B. anthracis, B. coli commune, B. mallei, B. pneumoniae, Streptococcus pyogenes, B. typhi, B. diphtheriae, B. pestis, Staphylococcus pyogenes aureus.

It has long been known that many varieties of bacteria possess a capsule which they show under certain conditions. The author states that by his method a capsule may be distinguished in all bacteria from any media.

The author draws the following conclusions:

By his method in all bacteria two parts may be distinguished—(a) a central portion, which is colored deeply by ordinary stains, and (b) a peripheral, colorless, well-defined covering, which the usual staining methods do not differentiate from the rest of the cell. It is highly probable that the peripheral layer of the cell protoplasm (capsule) is derived from the central part of the cell.

* * *

Contributions to the Study of the Etiology and the Pathological Anatomy of Pulmonary Gangrene. Babes et Proca. *Annales de l'Institut de Path. et Bact. de Bucarest*, Vol. IV; *Centralbl. f. Path. Anal.*, Bd. XI, No. 1.

From a study of a large amount of material the authors came to the conclusion that primary pulmonary gangrene probably does not exist. In apparently primary cases they generally found disease of the tonsils or retro-pharyngeal abscesses. The infectious process reaches the lungs through the lymphatics and then sets up diffuse gangrene. Pneumonia is not a necessary condition for the origin of gangrene. In histological studies the alveoli were usually found free of inflammatory exudate. The majority of cases of pulmonary gangrene are due to a putrid bronchitis, also

following those cases of pneumonia which are associated with especially virulent streptococci and staphylococci. The authors were able to isolate a variety of the bacillus of malignant edema, and a coli-like bacillus which experimentally produced gangrene. The ordinary mouth bacteria (leptothrix, spirocheta, etc.) are not capable of producing pulmonary gangrene. The so-called diphtheroid bacilli are frequently found in the disease, but the *rôle* which they play is still in doubt.

* * *

ON THE VALUE OF UROTROPIN AS A URINARY ANTISEPTIC, WITH ESPECIAL REFERENCE TO ITS USE IN TYPHOID FEVER. Mark W. Richardson. *Journal Exper. Medicine*, Vol. XV.

In the urine of typhoid patients the typhoid bacillus may persist for weeks, months, and even years, and be a source of danger to the patient (cystitis, orchitis, epididymitis), as well as to the community. Therefore the necessity of the disinfection of the urine of typhoid patients is obvious. Urotropin has been shown to be efficacious in this direction in doses of thirty grains daily. Every typhoid patient ought to receive ten grains daily during the entire course of the fever, or, beginning in the third week, about thirty to forty grains for ten days to two weeks.

* * *

TWO CASES OF TABES DORSALIS IN NEGROES, HUSBAND AND WIFE. Albert P. Francine. *American Journal of the Medical Sciences*, May, 1900.

Tabes dorsalis is recognized as occurring rarely in the negro, nine cases only having been reported, but the author has been unable to find reference to any instance in this race of the disease in husband and wife. Similar cases, however, have been reported in whites.

The two cases reported by Francine showed the cardinal symptoms of tabes—*i. e.*, loss of reflexes, fulgurant pains, girdle sensation, ataxia, and the eye symptoms. The occupation of the wife (having worked on a sewing machine for thirty-five years), in the absence of ascertainable evidence of specific infection, is interesting as a possible etiological factor, in conformity to the theory of Erb and Fournier, who advocate the mechanical rather than the specific origin of the disease.

The histories of the two cases in brief are as follows:

Case I. Jos. W., age forty-eight; colored; married; a barber. Tuberculosis on maternal side of family; no family history of nervous diseases. No white blood in his family. Has been rheumatic since ten years of age. Has a chronic cough and occasional hemorrhages. Examination of chest shows phthisis. Had a chancre when seventeen years old.

About five years ago patient began to suffer with difficult vision, slight ataxia, lightning pains in the legs, a girdle sensation, numbness in soles of feet. Some bladder trouble is present; knee jerks are absent; slight retardation of tactile sensation in soles of feet;

gait ataxic. Examination of eye shows right optic nerve pale, and left atrophic.

Case II. Eliza W. (wife of above), age fifty-two; married; colored; by occupation a seamstress. Mother and one sister died of consumption; no family history of nervous diseases. Denies any white blood in her family. Has been married twice; had two children by her first husband; no miscarriages. Was married to second husband twelve years ago, and has never been pregnant by this marriage. Has worked constantly on sewing machine for past thirty-five years.

For some years has complained of spots of hyperesthesia, sharp pains in legs and body, girdle sensation. There is unilateral asymmetry of face, which consists in drooping of right eye and flattening of the face on that side; there is also a partial double ptosis of the external oculars, though no actual paralysis. Knee jerks lost; retardation of sensation in soles of feet; gait ataxic; some inco-ordination. Hearing deficient. No optic atrophy, but fields of vision limited in extent for form and color.

Society Reports.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MONDAY, DECEMBER 3, 1900.

In the absence of the president, Dr. Welch, the meeting was called to order by Dr. H. Barton Jacobs.

Dr. McCrae reported a case of "Cirrhosis of the Stomach." The patient was about forty-eight years of age, and the first symptoms of the disease appeared five years ago. He first came to the Hopkins Hospital Dispensary one year ago, when his case was diagnosed as one of carcinoma of the stomach. At that time he was considerably emaciated, somewhat anemic, and an examination showed a slight ridge in the abdomen which gave a sensation of resistance, but no definite tumor. He afterwards consulted a number of other physicians, both in this country and abroad, with the result of a wide difference in diagnoses, but without a true diagnosis until about two months ago, when he returned to the Hopkins and was seen by Dr. Osler. The only additional symptom then was that he was able to take a definite small amount of nutriment, becoming nauseated whenever he exceeded that quantity, and that this small amount was constantly decreasing. He had lost over 100 pounds in weight. Examination of the stomach contents indicated a total absence of free acids. Upon the long duration of the case, as well as its peculiar history, Dr. Osler based his diagnosis.

Dr. Finney operated and found a very small stomach with an hour-glass constriction. By means of probes the constriction was first dilated and then divided. The patient eventually died, apparently from inanition.

Dr. McCrea exhibited the pathologic specimen, and stated that the sec-

tions removed at the time of operation showed no sign of malignant disease or of previous ulcers. The condition is a rare one, and one recent writer has said that the diagnosis has never been made during life with any degree of certainty.

Dr. Mitchell exhibited pathologic specimens from a case of "Dermoid Cyst of the Mesentery." The patient was a strong, healthy man, thirty-four years of age, whose illness begun ten years ago with attacks of colicky pain, which were repeated two or three times a year, and always accompanied by constipation, but without fever. During the last five years the number of attacks had increased and were of longer duration, and during the last year his condition had been one of alternate constipation and diarrhea. Examination showed a tumor about the size of an orange a little to the left of the median line and just below the umbilicus. It seemed to be a solid tumor, and could be moved about, at times even entirely disappearing. The diagnosis was in doubt at the time of the operation, but the majority of the consultants inclined to the view that it was a floating kidney. Dr. Finney, who operated, believed it would probably be found to be an intestinal tumor, and this it proved to be—a dermoid cyst, 10 cm. in diameter, situated in the mesentery of the ileum.

Dr. Bloodgood reported "Two Cases of Acute Pancreatitis." The first case referred to was one reported some time ago by Dr. Thayer, and its history was but briefly reviewed. The second was that of a physician, forty-seven years of age, whose only previous illness consisted in symptoms of indigestion, associated with slight distension and, rarely, nausea and vomiting. Seven months previous to his last attack he had with one of these spells a condition of jaundice which lasted three weeks. The onset of the last attack, eighteen days before entrance to the hospital, was sudden and associated with nausea, vomiting and intense cramp-like pains all over the abdomen. After five days of this, his abdomen was slightly distended, but there was no area of tenderness. On the third day his temperature was high, reaching 101.5. On the seventh day his physician noticed a lump in the right lumbar region, and from that time on he begun to have irregular fevers and chills. The patient finally grew much weaker, became slightly delirious, and presented the general appearance of toxemia.

At the operation, performed under cocaine, there was found a great deal of fat, and the omentum with studded with areas of fat necrosis. The pus found was of a deep-brown chocolate color, and at least 250 c. c. were evacuated. The patient died within twelve hours after the operation, which seemed to have no particular effect one way or the other on his condition.

Dr. Opie, in discussing this subject, reported the autopsy findings in the above case. The incision made at the operation passed through the greater omentum, between the stomach and transverse colon, and the drainage tube entered a large cavity lined with necrotic fatty tissue. The tumor mass which was felt during life was apparently not the pancreas, but a spongy brownish-red material which lay in front of it, and which on examination was found to be changed blood. The orifices of the common duct and pancreatic duct were separated by a thin membrane, and in the common duct near its orifice was a gallstone pressing against this mem-

brane in such a way that it could occlude the pancreatic as well as the bile duct. The pancreas was the seat of a chronic interstitial inflammation.

Dr. Opie stated further that in a review of the literature he had found that acute lesions of the pancreas were frequently associated with the presence of gallstones, and that in a large number of these cases a stone was actually lodged in a position similar to that just described.

Mr. Longcope read a paper on "Tuberculosis of the Aorta." He reported the case of a colored child, aged two years, who was operated on for tuberculosis of the hip-joint with a gluteal abscess. The operation was successful, and the child remained in good condition for two months, when it was noticed that the patient had a cough, and a few days later the temperature, which had been practically normal, rose to 103 degrees. An examination of the lungs showed patches of consolidation in both. The disease progressed rapidly, and the child died four months from the date of operation. The anatomical examination showed a chronic tuberculosis of the right lung, with miliary tuberculosis of the lungs, liver and spleen, and a parietal thrombus in the aorta. On microscopic examination tubercles were also found in the kidneys. The thrombus in the aorta was of a polypoid nature, 3 cm. long, and consisted of a mass of necrotic material, with no cell formations. The mass contained great numbers of tubercle bacilli. Tuberculosis of the smaller arteries and veins is a common occurrence, but only a few cases of involvement of the aorta have been reported.

Dr. Bloodgood said in discussion that this was a very important subject, inasmuch as the majority of surgeons were opposed to operative procedures in tuberculosis of the hip, because of the danger of disseminating tuberculosis. He thought that this case might be an example of such dissemination, although the presence of the chronic process in the lung offered just as probable an explanation of the cause of the aortic tuberculosis.

MEETING HELD MONDAY, JANUARY 7, 1901.

THE meeting was called to order by the president, Dr. W. H. Welch.

Dr. Opie and *Mr. Bassett:* "Typhoid Fever Without Intestinal Lesions."

Dr. Opie stated that there are a certain number of cases of typhoid fever reported in which no lesions have been found at autopsy in either the large or small intestine, and that very recently a case had come under his observation which belonged apparently to this group. The patient was a child, ten years of age, with a good family and personal history. The illness begun five days before admission to the hospital, the first symptoms being headache and backache. There were several movements of the bowels, accompanied with pain in the abdomen, and the following day she felt feverish. On admission to the hospital temperature was 102.4°, there were typical rose spots on the abdomen, and the agglutination test was positive when the blood serum was diluted 1-50. The disease appeared to be mild, and the temperature ranged from 102° to 104° during the first week. On the thirteenth day after admission nose-bleeding first begun, and purpuric spots appeared on the face. The coagulation time of the

blood, tested with Wright's capillary tubes, was four and three-quarters minutes. The bleeding was difficult to control at times, and on the night of the seventeenth day after admission she passed 60 c. c. of bright red blood from the rectum. A blood test the next day showed 2,256,000 red corpuscles, 3000 white corpuscles, and 41 per cent. of hemoglobin. Two days later purpuric spots appeared over the face, neck, front and back of the chest and posterior surfaces of the arms. On the twenty-first day bleeding begun again from the nose, and it was found impossible to control it. The red corpuscles then numbered 1,700,000, leucocytes 15,000, hemoglobin 26 per cent., and the coagulation time was five and one-half minutes. She died that day, which was the twenty-sixth day of her illness.

At the autopsy numerous minute echymotic areas were found in the heart muscle, in the lungs, liver, kidneys and stomach. The small intestine contained a brownish-red fluid, and Peyer's patches were evident in the lower part of the jejunum and throughout the ileum. The solitary follicles of the large intestine were visible, and marked by minute points of pigmentation. The retroperitoneal glands and the lymph glands of the mesentery were enlarged.

Microscopic examination of the liver showed foci of necroses similar to those usually found in typhoid fever, and in these areas were evidences of cell infiltration. Sections were made through several Peyer's patches, and while there was no evident hyperplasia, some sections did show groups of large epithelioid cells similar to those so constantly found in typhoid lesions. Cultures were made from the various organs, and the colon bacillus obtained from the liver and kidneys; from the liver, gall-bladder and kidneys a motile bacillus was obtained which agreed in all respects, when tested experimentally, with a stock culture of the typhoid organism.

Notwithstanding the fact that the lesions of the intestine were so slight as to be hardly recognizable, and of such a nature that they might readily have been overlooked, Dr. Opie thought there could be no doubt that this was a case of hemorrhagic typhoid. The hemorrhage from the intestines was apparently not due to ulceration, for no macroscopic lesions in the mucosa were noted; it probably was the result of oozing from the mucous membrane of the stomach, where there were numerous echymoses.

Dr. Opie presented a critical review of all the reported cases of supposed typhoid without intestinal lesions, and said that he could find no conclusive proof that the infection could occur without some slight lesion of the intestinal tract.

Dr. Futcher, in discussion, said that this was the second case of hemorrhagic typhoid which had been seen at the Hopkins Hospital, where over 1000 cases of this disease have now been treated. The first case recovered, but the second illustrated very well the hopelessness of endeavoring to counteract the tendency to bleeding in these cases where a hemorrhagic diathesis occurs. All the usual methods adopted to stop bleeding were tried on this patient, including the use of suprarenal extract, but without satisfactory results.

Dr. Welch remarked that there was no question that cases of typhoid fever could occur without ulceration of the intestines, and referred to the

clinical history of some mild cases which would lead one to suspect an infiltration of Peyer's patches and the solitary follicles without actual ulceration. He also referred to a group of cases in which death occurs late in the disease, and when one might readily suppose that the typhoid lesions had healed. He believed that a less careful pathological study than that made by Dr. Opie and Mr. Bassett would have led to the report of such a case as theirs as one entirely without intestinal lesions.

Dr. Harris: "Report Upon Bacillus Mortiferus."

Dr. Harris related the discovery of this new organism and described its peculiarities. The clinical history of the case from which the organism was isolated was practically that which accompanies a liver abscess, and at the operation the liver was found to be very much enlarged and to present upon its surface numerous thin-walled abscesses. From the pus of one of these abscesses this new bacillus was obtained. It is very minute, and is cultivated with very great difficulty, growing only on media containing as a basis blood, blood serum or hydrocele fluid, and then only anaerobically. Experimental work on animals showed that the organism was quite virulent, rabbits usually succumbing within six days. The lesions were always emaciation, loss of subcutaneous fat, a tremendous degree of peritonitis and multiple abscesses of the liver. H. O. R.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD AT BALTIMORE, NOVEMBER 16, 1900.

In the absence of the president the meeting was called to order by Dr. H. B. Jacobs, vice-president and chairman of the executive committee.

Dr. Samuel Amberg read a paper on "Simple Goitre in Infancy," and exhibited a number of very interesting cases.

In discussing the question, *Dr. Harry T. Marshall* said: It is interesting, in connection with the loss of the thyroids, to consider the number of instances in which the thyroid is enlarged. Dr. Halsted, some years ago, operated upon a number of dogs, taking out part or all of the thyroid, and in not a single case did he fail to get a large growth of the accessory thyroids. It is probable that in human beings the same conditions would attend, for when there is an enlargement of the normal thyroid there is usually some enlargement of the accessory glands. Such enlargements have been found in the trachea, and even in the bronchi, causing, by obstruction, the symptoms of asthma.

Dr. Jacobs: An interesting point in the therapeutics of simple goitre is that long before the thyroid extract was discovered it was known that iodine would benefit such conditions, and since it has become known that thyroid extract has a beneficial effect upon them it has been discovered that the thyroid extract contains iodine. It is an example of the occasional importance of empiric methods of treatment.

An eminent authority in Geneva has said that he invariably puts these patients on thyroid extract, and he can always say that the goitre will, at least, be reduced in size.

Dr. A. L. Hodgdon: Apropos of Dr. Jacobs' remarks, I would like to say that I have found in these cases of goitre that iodine administered cataphorically will reduce their size.

Dr. Herbert Harlan: "Amblyopia and Squinting Eye Benefited by Cataract Operation; Exhibition of Patient."

It is well known that in the majority of cases of squint one of the eyes is more or less amblyopic, and it is a question whether it is the amblyopia that causes the squint or whether the amblyopia results from the lack of use of the eye caused by the squint. I think there is very little doubt that there are cases in support of both sides of this question. There was one very interesting case reported some time ago of a boy, thirteen or fourteen years old, whose vision had been very carefully tested and recorded, and who afterward had to have his good eye enucleated as the result of an injury by a piece of steel. In the course of a week after the operation he began to see out of the eye which had been amblyopic, and the vision continued to improve until it became very good. The patient I wish to exhibit tonight has a somewhat similar history.

He is a man of sixty-two years, whose left eye turned sharply in towards the nose, and he thinks it has been so since early infancy. At the time I first saw him he was very markedly jaundiced, and had just recently been operated upon for gallstones. The squinting eye had a mature cataract and the other one an incipient cataract. It occurred to me to operate on the squinting eye while the other cataract was in the process of maturing. I did so, and since that time the cataract in the right eye, which was the straight one, has entirely matured. He assures me positively that since ever he knew anything about it he has had nothing more than light perception in the left eye. A simple extraction was performed, and he only remained in the hospital nine days. So long as the other eye was good enough to allow him to move about, the vision in the amblyopic eye improved very little, but after the cataract in the good eye had matured the vision in the eye that had been operated upon improved rapidly. At first he had a great deal of difficulty in turning the eye out, and on that account I performed a double tenotomy. He now has a vision of 15/200 in the amblyopic eye, and as there is a slight capsular deposit, a capsulotomy may give him better vision still.

This is probably a clear case of sight restored to an amblyopic eye, and seems to prove that that eye, at least, was amblyopic on account of lack of use. (Exhibition of patient.)

Dr. H. O. Reik: The case which Dr. Harlan has just reported is not only extremely interesting in itself, but has an important bearing on the theory of amblyopia exanopsia. It has long been a subject for debate whether in these cases of strabismus the amblyopia constitutes a congenital lesion or is the result of long-continued suppression of the visual image.

Dr. Harlan referred to the case of the file-worker, reported by Dr. Johnson several years ago, in whom the loss of the good eye as result of an

accident was followed by rapid and complete restoration of normal vision in the amblyopic eye. Since then Dr. Johnson has reported two other cases presenting strong clinical evidence in support of the view that amblyopia can follow non-use of an eye. One of these was, in effect, similar to the above, I believe—recovery of vision in the bad eye when compelled to use it because of loss of the good eye. The third case gave valuable information from another point of view. The patient received an injury to the brow and eye, involving the eye muscles in such a way that binocular fixation became impossible. For some time after the injury there was troublesome double vision, and several examinations showed full normal vision in both eyes. The patient learned, however, to suppress the image in the squinting eye, the diplopia disappeared, and a careful examination several years later showed that the vision in this eye had fallen from 20/20 to 20/100.

Javal, Risley and others have published similar cases, and, in the face of the clinical evidence now collected, it seems impossible to doubt any longer the existence of an amblyopia exanopsia.

Dr. R. L. Randolph: I am very much interested in Dr. Harlan's paper, and I am reminded of a case recently reported by a German, I believe, within the last three months. Klein, I think, also reported a similar case some three years ago. The case recently reported was a boy, eleven years old, who had always squinted strongly with his right eye. The left eye was wounded by a piece of wood, and, as a result, ulceration of the cornea followed, with prolapse of the iris, and his vision was reduced to light perception. It was then thought wise to exercise the squinting eye, which only possessed ability to count fingers at five feet. Within two weeks he was able to count fingers at twenty feet, and within twelve months the vision had gone up to 20/30, and he could read the finest print with the aid of a weak concave glass.

These cases seem to confirm Priestly Smith's idea concerning the early treatment of squint. He has laid down rules for systematically exercising the squinting eye while binding up the good one. I never operate upon these cases of squint in children until they can help me by such exercises.

Dr. Harlan: Have you ever gotten any benefit from tying up one eye?

Dr. Randolph: I cannot say that I have.

Dr. Hiram Woods: The question of the improvement in a squinting eye when it is compelled to work is an interesting one. There are cases in which no amount of treatment will develop the sight. One of the most remarkable cases I have ever seen occurred a year ago in a young lawyer in Baltimore. He had a normal right eye, with a very small error of refraction. There was a latent squint, which was an internal one. He had a high error of refraction in the left eye, his best vision being 20/50, and he discarded the left altogether in the fusion of stereoscopic pictures. I persuaded him to exercise that eye, and in six months his vision improved to normal, and he had stereoscopic vision for the first time in his life.

Now, it is a question in my mind, when these cases develop sight rapidly, whether it is an actual improvement in sight or a becoming conscious.

on the part of the patient, of the sight he has not previously noticed. It is a common thing in testing refraction to have the patient stop short at 20/50 or thereabout and swear he cannot read any further, but by gentle coaxing you bring him to 20/40 or 20/30 or some point far above what he thinks he is capable of. So, in my case, it was a question whether the vision had improved or whether the patient had been taught to work up to his abilities.

So far as this rapid improvement of vision in Dr. Harlan's case is concerned, I wish we had something more to act on than simply the patient's statement. As long as one has an eye that gives him ability to walk about and a perfect eye on the other side the degree of vision existing in the bad eye will not impress him very much; but let something happen to destroy the good eye and he is compelled to use the bad eye, and he comes to appreciate it very much more, and there follows a development right up to the limit of which that eye is capable. This man's whole mental attitude is very different now from what it was when he had a perfect eye on the other side. This is a phase of the matter that throws some doubt on the rapid development of visual power. The possibility of the eye really having more power of vision than the individual appreciates has to be considered. To test the eye carefully now and then again a year hence would, to my mind, give much more valuable information than we have in the patient's statement due to the sudden change.

Dr. Harlan: I am perfectly satisfied in my own mind in regard to this question of amblyopia exanopsia. In this case the interesting point was the length of time the squint and amblyopia had existed. I grant the force of Dr. Woods' objections, but my experience has been, both with children and adults, that though they say the eye is not good, they claim to see more than they actually do when I come to test them. There is no doubt this man's vision has improved very much since the operation. After the operation he only counted fingers at close range until the sight of the other eye faded out, and then the amblyopic eye began to show a rapid improvement.

Dr. Harry T. Marshall: "An Ambulatory Case of Typhoid Fever; Exhibition of Specimens."

Dr. John S. Fulton: I would like to say a word as to the great importance of these cases, having had under observation an outbreak that illustrates the great damage this kind of a case can do. On the 5th of October a case of typhoid fever died at a farmhouse in Cecil county. The family had been assisted in the care of this patient by the wife of a dairyman on the adjacent farm. A short while afterward this woman and her son began to complain. The physician attending them diagnosed the trouble as "summer grip," and still maintains that diagnosis. I saw the boy and woman both recently, and both have the appearance of convalescents from typhoid fever. The boy milked the cows, some fifteen or twenty daily, and the mother attended to the cans. On the 8th day of October this boy went to bed for the first time, and remained there but a few days; the mother continued at her duties, sick and emaciating, but it is said that she was never confined to bed.

On the 11th of October a case of typhoid occurred on the route of this

milkman in a town of 2500 inhabitants, and between the 11th and 27th of the month there occurred in that town thirty-five cases, and of those thirty-four took milk from this dairyman. Their drinking water was either the town supply or, in about a dozen cases, private wells. The largest daily incidence of typhoid-fever cases occurred on the 18th, six being reported for that day. The milkman was compelled to stop serving milk, and since the 27th of October the number of typhoid cases on his route has reached forty-three. Of course, a few more are due. The one case that was counted as not having gotten the infection from that milk has since been proven to have gotten milk daily from the same farm.

I mention this because it seems to illustrate so well a malignant infection from a case of typhoid that had not been compelled to stay in bed at all. An older boy in this same family is now in bed with a severe attack of the same disease.

Dr. J. M. Craighill: I think it is sometimes quite hard to recognize these cases of ambulatory typhoid. Any physician who is doing dispensary work sees cases almost daily in which it is hard to make a positive diagnosis. Only today at the University Hospital Dispensary we saw a man that we think has typhoid fever, but we could not be sure. An examination of the blood gave no positive Widal reaction. He had an enlarged spleen, was tender about the iliac region on the right side, and we thought we distinguished some rose spots on the abdomen. In a day or so probably we can make a diagnosis, although it will still be early to decide from the Widal reaction.

Rather an interesting set of cases came under my care in the hospital recently. Three sailors were admitted from the same ship. Two of them had typical malarial symptoms and showed the plasmodium in the blood. The third had typhoid symptoms and gave the Widal reaction, but after three or four days the temperature took on the malarial curve, and, responding quickly to quinine, he went out with the rest of the patients in a short time.

Dr. H. B. Jacobs: It seems to me this is a most interesting case. It is interesting to know that a man could walk about with such a lesion as this near his ileocecal valve. Then the ability of that man to spread the disease was certainly very great. When one thinks of the more recent results of the careful examination of the urine, which show that it, too, is full of the typhoid germs, and considers that it is likely to be voided in any place where such a man happens to be, it is manifest that the danger of spreading infection is greatly increased.

Dr. Randolph: I would like to ask Dr. Marshall what would have been the objection to operating after the first hemorrhage in this case, and what are the symptoms that determine one to operate in a case of this character.

Dr. Marshall: I did not see this case in life, but suppose it was not operated upon because of its peculiar history. There was little or no distension of the abdomen, the leucocytes were down to 3500, and did not rise at all, and there were no localizing symptoms in the abdomen at all. There was nothing here that would lead one to suspect perforation.

In regard to the most important signs for determining to operate, perhaps some of the surgeons present can tell you better than I can. The

general condition of the patient would, of course, count for much in considering the question of operating.

Dr. A. L. Hodgdon: "The Application of Electricity in the Treatment of Some Diseases of the Nervous System."

Dr. Hodgdon gave a short talk on the value of electricity in the treatment of nervous diseases, and followed this with a very interesting demonstration of the various means of applying it.

Book Reviews.

CANCER OF THE UTERUS. By Thomas Stephen Cullen, M.B. (Toronto), Associate Professor of Gynecology in the Johns Hopkins University. With eleven lithographic plates and over 300 colored and black illustrations in the text by Max Brödel and Herman Becker. New York: D. Appleton & Co. 1900.

Few of the professions truly realize the astonishing frequency of cancer of the uterus, and for this reason alone if Cullen's elaborate book makes a decided impression it will have served a great purpose.

With our present knowledge of the treatment of cancer an early diagnosis is the most important knowledge to be gained, and as a greater responsibility rests upon the general practitioner than upon the specialist, he should grasp every aid which is offered. While in a clinical way Cullen's book does not present many new points, yet by the classification adopted we have established three distinct varieties, each with symptoms more or less characteristic.

The chief importance of his work lies in recognizing the earliest possible histological changes of the uterine mucosa into malignant growths. This is accomplished by observing the nuclear changes and the presence of giant cells, besides the atypical arrangement of the cells. The immense practical value of this is readily understood both by the general practitioner and surgeon, as in no class of cases is a more vital question to be settled than in that large number of women subject to irregular bleeding just before or during the menopause. If there existed in every large community a man skilled in this particular branch of pathology many lives would be saved and many unnecessary operations obviated.

Through years of painstaking observation Cullen has been able to demonstrate a series of the various and perplexing conditions met with in a study of the mucous membrane of the uterus.

Without the aid of the artists, Brödel and Becker, the author would not have been able to give to the profession the fruit of his research. They have exquisitely illustrated throughout the book the points of the text which otherwise could not be clearly understood. The specialist can, by careful study of the text and drawings, familiarize himself with these various lesions, and be able to make a differential diagnosis between benign and malignant changes.

The arrangement of the chapters brings out sharply the classification of the disease from the histological and anatomical standpoint. This is

of particular value, as we are accustomed to hear discussions of the prognosis without considering the different varieties. This is a great mistake, as the statistics clearly prove.

Adeno-carcinoma of the uterine body is not at all a hopeless disease, as 66 per cent. of the cases survived the operation, and are living and well. It is doubtful if better results than these can be shown in operations for malignant growths in any other part of the body.

On the other hand, the results of the radical treatment for epitheliomata of the cervix have been most distressing and disheartening, as only thirteen out of sixty-one patients were living. Of these probably a large number will succumb, as sufficient time has not elapsed to assert a cure. However, if 2 per cent. of the cases subjected to radical operation are cured the procedure is justifiable in view of an otherwise hopeless prognosis.

Still there is this to be said—that in the earlier cases the operation failed to reach all points where an advance of the disease was probable. Also, the removal of the pelvic glands was not considered, and no attempt was made to prevent the danger of implantation of cancer cells in the field of operation.

Werder's modification of the Clark-Ries operation now completes all that can be accomplished by the surgeon. Any other advance must be in early diagnosis or some new form of treatment.

At first glance the inclusion of detailed cases in the text seems to detract from the general usefulness of the book, and it does undoubtedly render the reading difficult. The summary at the head of each case of important points, and the spaced type in the text, relieve the general reader of detail, and, at the same time, give to the investigator a complete study of the cases. A criticism is to be offered on the use of "display" type for unimportant sentences throughout the book. W. W. R.

Medical Diseases of Infancy and Childhood. By Dawson Williams, M.D., Physician to the East London Hospital for Children. New (second) edition. Specially revised for America by F. S. Churchill, A.B., M.D., Instructor in Diseases of Children, Rush Medical College. In one 8vo volume of 538 pages, with fifty-two illustrations and two colored plates. Cloth, $3.50 net. Philadelphia and New York: Lea Bros. & Co.

The second edition of this text-book is brought up to date by the many valuable additions of Churchill. Particular attention has been given to the subject of infant feeding, which is treated in a concise and lucid manner. Some of the subjects are treated rather briefly, but the author has used his characteristic forcible style to bring out the most important points. While no particular chapter stands out conspicuously, the description of tuberculosis and diphtheria may be especially noted. The book is well illustrated, the article on Cretinism being especially favored in this respect. Two plates, one on Koplik's spots, the other on the blood, are well done.

The prescriptions and recipes in the appendix will be found convenient.

J. L. H.

Venereal Diseases: Their Complications and Sequelae. By Keyes and Chetwood. New York: William Wood & Co.

The first part of the book (Acute and Chronic Urethritis, Complications and Sequelae) is written by Dr. Chetwood, being substituted for a work on this subject brought out by Dr. Keyes in 1880.

In the great majority of instances we consider the advice given very good and always conservative, but in some respects we believe the authors not exactly in accord with the best accepted opinions. He, unhesitatingly, classes with the non-specific those recurring attacks of urethritis which are due to a former gonorrhea, and which are generally considered as probably infectious. In acute posterior urethritis the catheter is advised for irrigations. The silver compounds have not been found satisfactory during the acute stage of urethritis.

There is hardly sufficient space given to chronic urethritis. We are told that in chronic *posterior* urethritis, when the discharge is fairly abundant, it collects at the meatus in the form of the morning drop. He prefers sounds to dilators in the treatment of chronic urethritis, because the latter cause uneven distension and greater irritation.

Dr. Keyes' contribution to the volume is already well known, being but a slight modification of that published in 1880.

He announces his belief in what has since been pretty conclusively proven—a specific chancroidal organism. In a few words he condemns the acknowledged object of his book—the so-called tonic treatment of syphilis. "These simple directions meet the wants of most cases until some tertiary symptom arrives—if, indeed, any tertiary symptoms come on at all, for they MAY escape." W. E. H.

An American Text-Book of Physiology. Edited by Wm. H. Howell, Ph.D., M.D. Second edition, revised. Vol. I. Philadelphia: W. B. Saunders & Co. 1900.

In the first volume of this admirable treatise upon physiology, the blood, lymph and circulation, secretion, digestion and nutrition, respiration and animal heat, and the chemistry of the body are carefully considered by Drs. Curtis, Howell, Lusk, Porter, and Reichert. The treatment of the subjects is full without being verbose, and is in every respect satisfactory.

The progress in physiological research since the appearance of the first edition has been incorporated into this new volume, with the result that some of the older theories have been eliminated, and new facts and newer points of view replace them.

The work is scientifically constructed, and will enhance the reputation of its authors at home and abroad. It will prove valuable to the student as a text-book, to the practitioner as a reference work, and to the investigator as a guide. B.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*
HORACE M. SIMMONS, M D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, FEBRUARY, 1901.

ANTITYPHOID INOCULATIONS.

COL. HENRY CAYLEY, officer in charge of the Scottish National Red Cross Hospital, South Africa, publishes in the *British Medical Journal* for January 12 an interesting note upon the value of antityphoid inoculations.

Of the sixty-one persons constituting the first section of the hospital, fifty-seven were inoculated twice at an interval of ten days, two orderlies were inoculated once, and two nurses, who had previously suffered with typhoid, were not inoculated. This section had the care of typhoid cases at Kronstadt, and at Bloemfontein when the fever was at its worst. None of them had typhoid. Four months after the inoculation the Widal test was tried with the blood of twenty-three of these persons. The reaction was prompt and characteristic in twenty-one instances in dilutions ranging from 1 to 40 up to 1 to 500. The two orderlies who were inoculated but once gave only slight reactions.

The second section included eighty-two persons, of whom nearly all were inoculated, many of them but once. One nurse was not inoculated, and she alone out of the total number of thirty-six nurses had typhoid fever. In this section five orderlies had typhoid fever at Kronstadt, and two of them died. Of the latter two, one had been inoculated once, and one had not been inoculated. Of the three who survived, two had not been inoculated, and one had been inoculated once. The blood of twenty-two persons in this section was examined by the Widal method three months after the inoculation. Only two of these gave good reactions, eleven gave none, and nine gave slight reactions. The material used in the inoculation of the second section was, we are told, not fresh.

A third section of the hospital contained twenty persons, all inoculated, and all escaped typhoid fever.

These results, Dr. Cayley thinks, are strong evidences in favor of the antityphoid inoculations, and indicate the necessity for two inoculations at a proper interval. They also support the evidence of previous observations that the Widal test furnishes a means of estimating the degree and testing the duration of immunity.

Dr. Cayley points out a source of error which is likely to appear in the case histories which will shortly furnish the statistical evidence upon the value of the inoculations. Vaccination and antityphoid inoculations were

both done in transit, and both operations were often performed upon the left arm. Thus it happened that men were unable to say whether they had been inoculated against typhoid or vaccinated against smallpox. The statements of patients are therefore not likely to be reliable as to whether they have or have not been inoculated. There are, he says, many other sources of error in the statistics, and he expresses the fear that the hospital statistics from South Africa will be of no great value.

THE RETIREMENT OF DR. GOULD.

"Shall the clay say to him that fashioneth it, What makest thou?"
"Surely your turning of things upside down shall be esteemed as the potter's clay."

WHETHER his retirement from the editorship of the *Philadelphia Medical Journal* means much or little to Dr. Gould concerns the profession not so much, perhaps, as the bearing of the change upon the future of so great and so influential a journal. We confess that from the inception of that enterprise the impression has steadily grown upon us that the power of that periodical proceeded from one man, the editor. The rupture has evidently been violent, and it is impossible at present to see how the change can be profitable to the *Journal.*

Dr. Gould's side of the case has been presented, but the *Journal's* side has not, it is said, been set forth. The initial item in the issue of January 19 is a very mild-mannered counter, a retort too courteous to the stinging attack of Dr. Gould. We are told that the "phenomenal circulation and influence" of the *Journal* are largely due to the "energy and enterprise" of the editor, that his "eminent services" to the company are highly appreciated, that his "earnest labors in behalf of the medical profession" ought to be everlastingly fruitful, and that his services as editor are no longer required. Just what jewel is wanted to complete this cluster of editorial brilliants is not quite clear to us at our level of journalism, but the trustees are evidently convinced that "phenomenal circulation and influence" an "energetic and enterprising" editor, "eminent services" and "earnest labors" have not brought and cannot bring either the measure or the kind of success which the publishing company desires. What do they seek? Something that can be characterized as preternatural, hyperkinetic, preeminent, heroic? Have they somehow acquired the lamp of Aladdin and the hat and purse of Fortunatus, or do they mean to print a three-dollar weekly?

If the first appearance of the *Philadelphia Medical Journal* challenged the interest of all medical readers on one hand, and the criticism of the medical publishers on the other, its aspect at the present juncture is not reassuring upon either hand.

It is impossible to retire Dr. Gould from medical journalism. In the *Philadelphia Medical Journal* he found his metier, and put his heart in it. The 12,000 readers are not likely to mistake the pot for the potter. The excellent thing which he made should go well and far without him. Let him find stuff and make another.

AN ABORTIONIST PUNISHED.

The conviction, sentence and incarceration of George C. Worthington for killing a woman by operating to produce abortion ends one of the longest and most destructive criminal careers that this city has ever endured. Probably the condemned man does not himself know how many lives his foul practice has brought to untimely close. It is inconceivable that a man of average intelligence could have failed to learn something of the dangers of introducing unsterilized instruments into the uterus, and yet if he was really guilty of as many deaths as have been ascribed to him we must believe either that he was quite reckless of human life or that the number of his operations was enormous. His practice was undoubtedly lucrative enough to secure him every defense that money could buy. He had been so often prosecuted that many well-informed lawyers believed that he could never be convicted. It would be interesting to know in what respect Mr. McLane's management of this case differed from the conduct of the unsuccessful prosecutions.

Justice is hot upon the track of other offenders of the same sort. An advertising concern in East Baltimore was visited during the month by Mr. Anthony Comstock, who obtained irrefutable evidence that the three "doctors" in question are abortion-mongers pure and simple. No one is surprised. The nature of their practice has been proclaimed long and with sufficient clearness in the newspapers.

THE OPERA MINORA OF THREE SURGEONS.

A very pretty little book comes to us from Cassell & Co., entitled "The Tale of a Field Hospital." The author is Frederick Treves, late consulting surgeon with Her Majesty's troops in South Africa. His thirty brief sketches cover the route of the Relief Column from Camp Frere to Ladysmith. The story is told by a keen observer, able to hold fast the point of view of common humanity, and possessing to a high degree the gift of reporting. The book is exceedingly well written, full of interest, and is besides a beautiful example of the bookmaker's art.

Dr. G. Frank Lydston of Chicago has also made an excursion into general literature, with his "Panama and the Sierras," which comes from the Riverton Press. It is the wayside notes of a voyage of recreation which took Dr. Lydston from New York to California by way of Panama, retracing a route which he had traversed as a boy. It is a very entertaining volume, not burdened with descriptions, nor making any effort to be instructive, and so easily avoiding dullness. The reader is not allowed to quite forget Chicago until introduced to the sappy old remainder of 1849 in the gold fields of California. Here the author is at his best. There are many pretty photographs, and one that is gruesome.

From the press of the American Medical Association we have Dr. Nicholas Senn's "Medico-Surgical Aspects of the Spanish-American War." This book is written somewhat in the style of a diary, and is not at all confined to the scientific point of view. While it will be read most widely for the sake of its interesting narrative, the book contains much that will be found of practical value, as, for instance, the chapter on Recent Experiences in Military Surgery After the Battle of Santiago, written two weeks after that engagement. There are several chapters devoted entirely to military medicine and surgery, and there are numerous short case histories. The book is profusely illustrated.

Medical Items.

Dr. Chas. F. Davidson has removed from Queenstown to Easton.

Minneapolis will have daily medical inspection of the public schools.

The Flint Club held its annual dinner on the evening of January 3, Dr. John B. Schwatka presiding as toastmaster.

Dr. J. Allison Hodges has been elected to succeed Dr. Hunter McGuire as president of the University College of Medicine, Richmond, Va.

The University of Michigan will require all its medical students to wear Red Cross badges. They are under especially strict discipline with respect to infectious disease.

An epidemic of rabies prevails at Rochester. Reports of mad dogs average one a day, and there are so many carcasses at the health department that they cannot all be autopsied.

The Board of Health of Buffalo recommends the appointment of a medical supervisor of churches and Sunday-schools, who shall instruct parents and children in practical hygiene.

As illustrating the increasing virulence of smallpox, it may be mentioned that of the 128 cases recently reported to the New York State Board of Health, ten proved fatal; seventy-five are still sick.

The Health Commissioner of Chicago claims for his city the distinction of the lowest mortality rate among cities of the first class. If his figures are correct (about 14 per 1000) the honor belongs to Chicago. If—.

An active politician of the Tammany tough variety died recently in New York city. She had run with the "boys" for thirty years, had married twice, died of mammary cancer, and was never suspected of being a woman.

Just now when the city fathers of Baltimore are considering the question of a municipal hospital for infectious disease, it is noteworthy that the Boston city council has just appropriated $120,000 for a new isolation ward.

Dr. David C. Ireland died on January 15 at his home, 1429 East Biddle street, of influenza. Dr. Ireland graduated at the University of Pennsylvania in 1867, and spent the whole of his professional life in Baltimore.

The prospects for sewerage were never so bright as at present. The subject has been freely discussed in the newspapers, the mayor and city council are both in favor of it, and just now it is the municipal improvement most generally talked about.

The report of the library committee of the New York Academy of Medicine shows that they had, November 30, 89,000 volumes, including 36,105 duplicates. The library is growing at the rate of more than 3500 volumes a year. The number of journals on file is 941.

A sanitarium for the care of working women and children suffering with tuberculosis is to be established by a committee of ladies in the Adirondack region. One hundred patients are to be provided for. The establishment is to be known as the Stony Wolde Sanitarium.

The New York State Medical Association will publish a monthly journal under the name of the *New York State Journal of Medicine*. The first issue has appeared and promises to serve the purposes of the Association better than the annual volume of transactions which it replaces.

In Indiana a bill is before the legislature which provides that parents shall employ only registered physicians to attend children under sixteen years of age. The penalty is said to be quite severe. This law is designed to protect children from the faith curists and other medical humbugs.

The new home of the Boston Medical Library was opened on January 12. The beautiful building is three stories in height, and contains four rooms for society meetings, a small one on the first floor known as Sprague Hall, and a large one on the second floor called Holmes Hall. The total cost rises to $140,000.

Dr. Joseph C. Stedman describes in the *Boston Medical and Surgical Journal* for January 26 a novel use for an electric automobile. Being obliged to operate on a patient in the country at night, he was sadly puzzled about means of illumination. The operation involved a laparotomy. He brought his automobile close to the house, carried the current from his storage battery up into the patient's room on the second floor, and attached a 16-candle-power electric lamp, which gave him all the light needed.

The smallpox situation in Maryland is not quite reassuring. The outbreak which occurred in Lakeland, Prince George county, in August has given rise to a few cases in the neighboring counties of Montgomery, Howard, Anne Arundel and Baltimore. Throughout the country the disease is slowly increasing both in prevalence and in virulence.

Dr. W. E. Grimm of Patterson Creek, W. Va., was arrested in Cumberland on January 3 and held under bail to await the action of the grand jury upon a charge of practicing medicine in Maryland when he is not legally qualified as a practitioner. Dr. Grimm's offense consisted in crossing the boundary line for a distance of some 400 yards to attend the negro laborers quarantined with smallpox at Pinto, Allegany county.

Dr. Grafton M. Bosley of Towson died at the Church Home on January 25, aged seventy-six years. Dr. Bosley was an A.M. of Dickinson College, and M.D. University of Maryland, 1847. He had not practiced medicine for some twenty years, having given his attention during that time exclusively to his real estate interests. When Baltimore county established its seat of government at Towson the grounds now occupied by the jail and courthouse were given to the county by Dr. Bosley.

The Chicago Medical Society at the meeting on January 23 passed resolutions condemning the compounding of fees by surgeons and consultants with general practitioners. The penalty of the offense is to be expulsion from the Society. The campaign against this ugly practice has been led by Dr. G. Frank Lydston. The Society is so anxious to purge the good name of Chicago from the stain of this practice that copies of the resolutions are to be sent to all the medical journals in the country.

New York is taking stock of the temporary disadvantages inseparable from the great work of putting her trolley lines under ground. The bugaboo of malaria has been paraded. Their contracts wisely provide that not more than 400 running feet of street shall be open at any one time, and that blasting shall be confined to certain hours. All such work is necessarily attended with inconveniences, but the dangers to public health are quite inconsiderable. We shall hear a great deal about these things when we come to sewer.

The *New York Medical Journal* of January 12 prints a remarkable item about Baltimore. The typhoid mortality for eleven months of last year is said to have been 783, and the Health Commissioner is said to be supported by the profession in the statement that the sanitary conditions of the city were never worse. Baltimoreans are not much given to boasting of the sanitation of their town, and both the Health Commissioner and the medical profession cry shame that 189 persons died in the city in 1900 of typhoid fever.

Dr. Abram Claude died at his home in Annapolis on Thursday, January 10. Dr. Claude was born at Annapolis on December 4, 1818, and was the son of a physician, Dr. Dennis Claude. He was a graduate of St. John's College and of the University of Maryland School of Medicine. For many years Dr. Claude was the leading physician in Annapolis, and was besides prominent in public affairs. He was elected mayor of Annapolis in 1849 and 1850, again in 1854, in 1867 and in 1883. He served continuously from 1883 to 1889. From 1871 to 1883 Dr. Claude was professor of natural science in St. John's College.

The governor of California has delivered himself of an entertaining message declaring that there is not and has not at any time been a case of plague in San Francisco. He asserts that "certain physicians" inadvertently or intentionally inoculated the cadaver of a Chinaman with the slides or cultures carelessly carried in their pockets, and so produced the lesions upon which the diagnosis of plague was made. There is, he says, no source of danger except these same slides and cultures, and he proposes that the making of slides and cultures without the written permission of the State Board of Health and the X mark of the governor shall be made a felony.

Surgeon-Major Walter Reed reports the final proof of the mosquito theory of transmission of yellow fever. A room divided by a mosquito-proof wire screen was furnished in one apartment with sterile bedding and infected mosquitoes; the other side was furnished with infected bedding, but no mosquitoes. Non-immunes lived in both apartments. Yellow fever was contracted on the mosquito side of the screen, but not upon the other. Persons wearing the clothing of yellow-fever patients and sleeping in infected beds did not in twenty days contract yellow fever. A dinner has been given in honor of Dr. Charles Finley, who originated the theory.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 3 BALTIMORE, MARCH, 1901 Whole No. 994

EIGHT CASES OF GOITRE IN ONE FAMILY.

By Samuel Amberg, M.D.

Baltimore.

READ BEFORE THE CLINICAL SOCIETY OF MARYLAND, NOVEMBER 16, 1900.

Florence C., a white girl, seven years of age, was brought to the Johns Hopkins Dispensary complaining of a cold. On examination of the somewhat anemic child a slight enlargement of the lymph glands over the body and a slight arhythmia of the heart action were found. Besides this, there was an enlargement of both lobes and the isthmus of the thyroid gland. Of the family history the following notes were taken:

There are no tuberculosis, lues, rheumatism, nervous diseases or insanity in the ascendants. The family of the father is free from goitre. The paternal grandparents of the mother came from England, from what part is not known. The father of the mother was born in Newark, N. J., and died in Baltimore sixteen years ago from Typhoid fever. Whether he or his parents were afflicted with goitre could not be found out. Two daughters of his second marriage were free from it. The maternal grandmother of the mother was born and raised in Baltimore. One of her parents came from Wales; she was free from goitre. Neither was her husband afflicted. The mother of the mother was born and raised in Baltimore. She died twenty-seven years ago with smallpox. It is not known whether she had an enlargement of the thyroid gland. She had two sisters, one of whom died in infancy, the other is living and has a goitre. This sister had nine children; seven died young, and of the two living girls, twenty and twenty-eight years of age, neither is afflicted with goitre. The large goitre of the sister decreased after the birth of her last child, and can now, it is said, hardly be noticed. The mother is thirty-one years of age; was born and raised in Baltimore. She had two brothers who died in infancy. She states that her goitre was noticed when she was about seven years old. The tumor involves both lobes, but the left lobe appears larger. It is about the size of a fist and soft. Her goitre used to swell during pregnancy. Of her eight children, one boy, four months of age, died two years ago. The youngest child, a girl of

ten months, is the only one in whom the thyroid gland appears not to be enlarged. The gland of the next child, a girl four years of age, is distinctly enlarged, particularly the right lobe. A little more pronounced is the swelling of the gland of the five-year-old boy, and here, too, the right lobe is larger than the left. In the seven-year-old girl the swelling betrays itself very distinctly to the eye. Both lobes appear equally affected. Then follows a boy, not quite ten years old, whose gland does not quite reach the size of that of his sister, while the right lobe appears to be larger. The enlargement in the eleven-year-old girl exceeds a little that of her younger sister, and both lobes are about equally affected, while in the oldest child, a girl twelve years of age, the swelling of the left lobe is more pronounced. Here the tumor reaches about the size of an egg.

The seven-year-old girl is a rather delicate child, while all the other children are well built and well nourished. All of them, except the four-year-old girl, were slow in learning to talk. The two boys and the seven-year-old girl show defective articulation, for which a satisfactory explanation could so far not be made out. The oldest girl is somewhat anemic. She and her next sister become, like all the members of the mother's family, the mother included, easily excited. Then the face flushes, and they get palpitation of the heart. The heart-sounds of the mother and children are clear. The mother has a "goitre-voice;" she takes cold easily, and has then difficulty in breathing, sometimes in swallowing. In none of the cases (mother and children) is any sign of exophthalmic goitre to be found.

All the tumors are soft and appear to belong to the so-called struma parenchymatosa seu follicularis, while that of the mother is probably a struma colloidea seu gelatinosa. This form corresponds to the adenoma gelatinosum interacinosum of Wölfler,[1] whose classification of struma is clinically not adopted on account of its complexity.[2] The difference between the struma parenchymatosa and gelatinosa is a difference of degree.

Goitre cases are divided into endemic, epidemic, and sporadic forms. Endemic goitre cannot be said to exist in any locality of the United States or Canada. This statement was made by Osler in 1893.[3] Since then Munson[4] has published statistics bearing upon the occurrence of goitre among the Indians of the West, which show that in some tribes the proportion of goitrous persons reaches a percentage of 4.2. All of our cases belong to the sporadic form, a disease not uncommon in the United States.[5] About the causes of this form nothing is known. In our cases all the occasional causes which are said to be able to bring about goitre by means of a lasting or often-repeated hyperemia of the thyroid gland can hardly be accused. Virchow is inclined to suppose a predisposition, particularly an anomaly of development, and Ewald[6] also reckons with the possibility of an abnormal development. Hereditary influences are recognized etiological factors, and this influence does not seem to be limited to the congenital forms only. An illustration of hereditary influence is given in a statistical study by

Vetlesen.[7] This author examined 117 families living in a non-goitrous district. In seventy-four families several members of a family suffered from goitre, and in forty-eight of these goitre was found in the direct ascending or descending line. In this country Mial[8] reported a family where grandmother, mother and five children were afflicted. The youngest child was a girl, ten years of age. The family lived six years in this country, and came from Berlin, where goitre is not endemic. In the family before us we may be allowed to assign hereditary influences, at least in the cases of the children. For the goitre of the mother and for that of her aunt we can give no reason. It is possible that the ascendants came from a goitrous district. The family tree reaches back to England in two instances, but it is not known to which part of that country. But even if the ascendants should have lived in an infected locality, it would be strange if the goitre, which frequently disappears by removing to a non-goitrous district, should show itself overleaping at least one generation.

In the cases of the children there remains the question whether the goitre is congenital. Taking in consideration that congenital goitres are very rarely observed in non-goitrous districts, and that the youngest child does not show any signs of enlargement of the thyroid gland, or, as far as it could be made out, of enlargement of parathyroid glands, it is very improbable that the goitres are congenital. Although goitre may befall single individuals at any age, it frequently is lowest in the first decade of life (Ewald and Kocher), for Ewald states that the most cases of sporadic goitre are observed in early-developed chlorotic girls, while Vetlesen mentions that the disease in his cases had most frequently commenced in childhood.

The anatomical type, found in our cases, is the prevailing one. The preference of the disease for the right lobe is not very pronounced in our cases, while the intimate connection existing between goitre and the sexual life of the female is illustrated in the cases of mother and aunt. The predisposition of the female sex is not evident in our cases.

In relation to the course of the disease, Kraus[9] notes that the chronic sporadic goitre may for a long time remain stationary, but his further statement, that a spontaneous decrease to any considerable extent does not occur, is not borne out by the decrease of the goitre of the aunt. The dangers of the tumors are not only of a mechanical nature; there is a possibility of metastasis going out from a struma gelatinosa (Wölfler cites some cases), or of the development of a malignant tumor. Another danger lies in the possibility that at any time a secondary exophthalmic goitre may supervene (Möbius).[10] The exophthalmic goitre itself may be succeeded by myxedema, but this is a rather remote danger.

In connection with these latter possibilities I wish to touch briefly upon the position which the cases of simple goitre hold among the diseases of the thyroid gland. It appears to be the least harmful member of the group, which includes cretinism, endemic

and sporadic, myxedema, and cachexia thyropriva on the one hand, and exophthalmic goitre on the other. The endemic goitre is regarded as the first step leading to cretinism.[11] Common to all these forms is a disturbance of the thyroid gland. In simple uncomplicated goitre the disease is not sufficient to interfere with the function of the gland, or perhaps the organism is able to adapt itself to slight variations of its function. Moderate palpitation and increased frequency of the heart action,[12] which may be present even in goitres of small size, but not in a persistent form, would indicate a transient disturbance of the equilibrium. In the first group a loss of function of the gland seems to be imperative—"*athyroidism.*" The exophthalmic goitre, on the contrary, is attributed to an increased discharge of the glandular secretion into the circulation[13]—*hyperthyroidism,*" or, in combination with this to an alteration of the secretion, "*dysthyroidism.*"[14] This seems to be the prevailing theory, although it is not generally accepted.[15]

The treatment in our cases will follow a course laid out in the clinic of Mikulicz, where in three cases, children of ten and twelve years of age, a complete cure was effected by feeding with the thymus gland of the sheep. The reasons which prompted the administration of this gland are given in the monograph of Ewald, who himself got fairly good results in a few cases. Reinbach[16] fixes the dosage of the absolutely fresh gland for children at 150 grains three times a week; for adults 225. The effects of the treatment were ordinarily manifested at the end of three or four weeks. Untoward effects were never observed. The type of our cases is the most favorable for the treatment. Whether the goitre of the mother will be influenced by it is very doubtful, since Reinbach states that the hope to benefit cases which have passed the second decade of life is small. If thymus or thyroid gland should prove ineffective there remains only surgical treatment.

1. Langenbeck, Arch. f. Chirurgie, Vol. XXIX.
2. Hitzig opposes the classification of Wölfler for histogenetic reasons. Langenbeck, Arch. f. Chirurgie, Vol. XLVII.
3. Am. Jour. Med. Sc., November, 1893.
4. New York Med. Jour., October 26, 1895.
5. Osler's Practice.
6. Ewald in Nothnagel's Collection, Vol. XXII.
7. Sajous' Annual, 1899, Vol. III.
8. Journal of Laryngology, 1896, p. 145.
9. Ebstein and Schwalbe, Handbuch der pract. Med., p. 243.
10. Mobius, Nothnagel's Collection, Vol. XXII.
11. See Osler, Am. Jour. Med. Sc., October, 1897.
12. Kinnicut, System of Pract. of Med. by American Authors, Vol. III.
13. For instance, Adami, Montreal Med. Jour., January, 1901.
14. Mobius, Nothnagel Collection, Vol. XXII.
15. Putnam, Am. Jour. Med. Sc., August, 1893, and January, 1898.
16. Reinbach, Sajous' Annual, 1899, Vol. III, p. 344; Centralbl. f. Inn. Med., 1899, p. 991.

FOUR CASES OF SPORADIC CRETINISM.

By Henry Barton Jacobs, M.D.,
Instructor in Medicine, Johns Hopkins Medical School.

EXHIBITED AT MEETING OF THE CLINICAL SOCIETY OF MARYLAND, DECEMBER 7, 1900.

I BRING before you tonight four cases of cretinism, believing you will be interested in seeing them and in hearing of the improvement brought about by treatment. Photographs taken before thyroid extract was begun, and others as treatment advanced, together with the patients themselves here, will, I am sure, illustrate this improvement entirely to your satisfaction. But it is not alone to show you what can be done that I bring them, but rather to emphasize again the fact that we still have cases of sporadic cretinism in our midst which are escaping the notice of physicians until the period when they can best be helped is far passed. Much may be done both for the mental and physical growth of any cretin seen before his twentieth year, but it is too much to be hoped for that he can be fully restored if only started on the thyroid extract in the later years of childhood or youth. On the other hand, scarcely anything in medicine is more certain than that he will develop naturally, both in body and mind, if in the first two or three years of his life his condition is recognized and his needs supplied by the administration of the extract of the thyroid gland.

The first case is one which I showed to the Society in April last, and it illustrates what can be done for such children. The photograph taken at time of admission will recall to your minds how the child appeared when you saw her before. The pictures taken subsequently at short intervals show beautifully how rapidly improvement begins, and how much is accomplished in the early weeks of treatment.

Here briefly is the history, which I report with Dr. Osler's kind permission:

Case I. Medical No. 11,124; S. T., female, aged six; admitted March 31, 1900; discharged August 28, 1900.

F. H.: Parents Russian; no such trouble on either side of the family; mother and father are cousins; in America three months.

P. H.: Child's birth normal at full term; she began to get her teeth at four years; has never walked or talked; stands with difficulty, but can sit up without support; mother noticed nothing peculiar about the child until she was two years old, then she found she was not growing like other children, and not until she was five did she begin to crawl; she thinks the child understands some things, and she makes some sounds, which the mother thinks she interprets correctly.

On admission Dr. Futcher made the following note: "Child extremely small for its age; possesses listless expression, but

shows a certain degree of intelligence, and is interested in objects handed her; hair is dry and brittle; lips slightly thick; lower lip protrudes; teeth fairly well preserved; tongue is large and protrudes; slight puffiness of face; neck is short and thick; subcutaneous tissue of neck abundant; no definite supraclavicular pads; subcutaneous tissue fairly abundant over arms and forearms, where it forms into folds, with deep fissures between; hands and feet short and thick, subcutaneous tissue being unusually developed; fingers short and stubby; slight bowing of the legs; abdomen is large and

Case I—Cretinism. Sarah T., aged 6 years, April 2, 1900.

protuberant; distinct bowing of lower part of dorsal spine backwards; liver and spleen are not palpable; neither lobe of the thyroid glands is to be felt; child stands only with support; anterior fontanelle is not yet closed."

Blood-count—reds 3,708,000; leucocytes 10,800; measurements —height 75⅓ cm., head circumference 48½ cm., chest circumference 52½ cm., abdomen, greatest circumference, 56½ cm.

The child was put at once upon thyroid extract, and in the first two weeks began to show marked improvement, with a loss of two and one-half pounds in weight. At the end of three weeks, as the

photographs show, there was a decided improvement. The child looked brighter, was more active, and could walk a few steps practically without assistance. The tongue was smaller, and scarcely protruded. The dose of thyroid was three grains of the desiccated gland. Improvement was continuous, the child constantly increasing in intelligence and in ability to walk. On August 14 the height was 84½ cm., a growth of 6 cm. since April 1. At the same time the circumference of the head, chest and abdomen decreased, respectively, to 47½, 47 and 43 cm.

Case I—Thyroid Treatment. Sarah T., April 23, 1900.

Case I—Thyroid Treatment. Sarah T., May 8, 1900.

On August 28 the blood-count showed: Red corpuscles 4,888,000, whites 9000; hemoglobin 61 per cent. On this day the child was discharged to go to the country for the remainder of the summer.

While in the hospital the temperature chart showed a more or less constant slight fever through the first three or four weeks—the period when she was losing so rapidly her cretinoid aspect. She returned to the hospital on September 22 not looking so well as when discharged. Evidently she failed to keep up the thyroid extract. There was marked pallor of the face; she was much duller

and more apathetic. Immediately thyroid was started again, the equivalent of five grains of the fresh gland three times a day being employed, and a second time her improvement, both mental and physical, became immediate.

You see what a bright, active child she is. Although her stature is not much increased, she has full command of her physical powers, and runs about with strength and vigor, while the change in her mental condition is remarkable. She seems intelligent and

Case I—Thyroid Treatment. Sarah T., June 5, 1900.

interested, and is beginning to learn the relationship of objects about her as a child of two or three normally does, this being the number of years corresponding to her true physical and mental age.

The second case I also exhibited in April last, but the child has been lost sight of, and I am not able to show him to you tonight. I have brought his photograph, however, which I beg you to look at as illustrating the picture of a typical cretin. Here is his his-

tory. Note he is seven years old. This case also is from the wards of the Johns Hopkins Hospital:

Case II. Medical number 11,267; C. E. H., male, aged seven, white; admitted May 5, 1900; discharged May 22, 1900.

F. H.: No similar affection known in family; grandparents German; one of three children; all the others well.

P. H.: Normal birth, without instruments, at full term; mother says that at birth baby's head was very large, and the child did not look natural from the first; began to crawl at two years, and to

Case II—Cretinism. Charles H., aged 7 years, May 8, 1900.

walk with support at four, but has never been able to walk unassisted.

P. C.: Child looks about two years old; expression dull and apathetic; takes no notice of objects handed him; seems to understand little that is said; can stand without asistance, but cannot walk; Head large; hair coarse and dry; anterior fontanelle unclosed, about the size of half-dollar; face large, broad, rather puffy; eyes small, wide apart; palpebral orifices narrow; nose broad and flattened; mouth very large, measuring 5 cm.; lips thick, protuberant,

tongue, however, does not protrude; teeth very badly decayed; thyroid gland is not palpable; skin over the body is pale, dry and harsh, with few superficial folds on the arms and legs; soft systolic murmur is heard at the apex of the heart, otherwise chest is normal; abdomen prominent, but not pendulous; liver dullness 1 cm. below costal region in mamillary line; neither liver nor spleen to be felt; legs are markedly bowed; both hands and feet large in proportion to remainder of body; skin is very harsh and wrinkled; height of boy 84 cm.; circumference of head 54½ cm.; circumfer-

Case II—Thyroid Treatment. Charles H., May 22, 1900.

ence of neck 30 cm.; circumference of chest under arms 30½ cm. (neck as big as chest); greatest circumference of abdomen 54½ cm.

Blood-count—red-blood corpuscles 3,810,000, whites 6000; hemoglobin 62 per cent.

Patient was put at once upon tablets of thyroid extract, equivalent to two and one-half grains of the fresh gland, three times a day. The child immediately improved noticeably, but on May 22 the mother insisted, against advice, upon taking him away, and he was discharged.

The temperature chart through the greater part of the stay in hospital shows a continuous low fever, between 99° and 100°, but as the patient had a dicharging lymphatic gland in the inferior maxillary region this might well account for it.

My third case, also, came to the Johns Hopkins Hospital during the past summer. As she is not in the city at present, it was not possible for me to bring her here. You will, however, be interested in the photographs. How typically cretinoid she is in aspect, even froglike in attitude and expression! Yet after but two weeks' treatment there is a glimmer of intelligence in the eyes, and an ability to sustain her weight, which is wanting in the former picture. Note here, too, that the child is six years old.

Case III. Medical number 11,451; E. M. C., female, aged six, white; this child was admitted June 18, 1900, and discharged July 30.

Case III—Elsie C., in good health, aged 6 months.

F. H. is negative; was born without instruments and after an easy labor; mother says the child was apparently bright and looked like other children for the first nine months of her life. At that time she learned to call her mother by name. The photograph taken at six months shows a very bright, interesting-looking baby. After the age of nine months she failed to develop as other children do, and in the past two years has gotten very stout, the mouth has become enlarged, and the hands and wrists have gotten thick.

P. C.: Dr. Futcher makes the following note: "Child has a typical cretinoid appearance; head large, frontal region high; unintelligent expression; face puffy; lips and alae nasi thick; nose flattened; tongue constantly protruded; hair dry and harsh; skin dry, rough; above and behind the ear thick pads of skin; neck short; arms short; hands short and pudgy; child breathes entirely

through mouth; primary teeth have evidently been present, but are almost entirely decayed; thorax definitely funnel-shaped, with marked Harrison grooves; abdomen very remarkably protuberant; umbilicus prominent; liver and spleen not palpable; anterior fontanelle not closed; thyroid gland not palpable."

The child was immediately put upon thyroid extract, and by July 1 was already brighter in appearance. Discharged July 19.

The temperature chart in this case was modified, so far as its

Case III—Elsie C., a cretin aged 6 years, June 18, 1900.

significance in cretinism is concerned, by an irregular fever, dependent more or less upon a purulent discharge from the middle ear.

Case IV. The mother of this baby has kindly brought the child for you to see. The photographs, taken several months ago, will show you its condition then, and the baby illustrates how she is at present.

This case was brought to the Johns Hopkins Dispensary by Drs. Lilian Welsh and Mary Sherwood, and I am going to ask Mr. Kaufman, one of our students, to relate its history, as he has kept notes of the case.

Mr. Kaufmann: This child is now twenty-three months old. The mother thinks the child did very well up to eight months of age, then it was noticed that she was not able to sit up without assistance. The family physician was consulted, but advised them that she would probably outgrow the condition. Soon after, an eczema developing on the face, the child was taken to the dispensary in South Baltimore, where Dr. Welsh made a diagnosis of sporadic cretinism, and remembering that Dr. Osler was inter-

Case III—Elsie C., July 3, 1900.

ested in such cases, brought it to the Johns Hopkins Dispensary. The anterior fontanelle was wide open, the nose flat, lips thick, and tongue protruding, with tendency to drool; hair and skin were dry; abdomen considerably enlarged, and the umbilicus prominent; limbs well formed, but stubby and stout. Dr. Osler thought he could detect a depression on either side of the trachea which might indicate diminished size or even absence of the thyroid gland. The baby was started at once on a grain of the thyroid extract three times daily, and two months later showed considerable

improvement. After a time the dose was increased one-quarter of a grain each week. Within four months she developed all her teeth. She now stands alone very well, and is beginning to talk.

Dr. Jacobs: As I said in the beginning, I have two reasons for bringing these cases before you—1st, that you may see the importance of making a diagnosis, and, 2d, that you may observe the efficacy of treatment. The fact that three of our cases reached the age of six years before diagnosis was made or treatment begun

Case IV—Cretinism, Case of Drs. Sherwood and Welsh.

shows that, in spite of all that has been written upon the subject of sporadic cretinism and the usefulness of thyroid extract in this condition, the great body of physicians have not yet learned to recognize the disease. Recently, through the kindness of a colleague, I was enabled to see with him a case of pronounced cretinism in a child of fourteen, whose own father is a practising physician. Happily, our fourth case, the infant, within a few months after the first symptoms were noticed, fell under the observation of Dr. Welsh, who immediately recognized the condition. It makes

all the difference in the world at what time of life treatment is begun. As you will note in this baby, only a few months after treatment dentition began, not very much later than the natural time, while in the other cases, as learned from their histories, dentition was delayed until three or four years of age, showing that the administration of the thyroid immediately resuscitated, as it were, the nutritive and metabolic processes, causing the child's growth to go on in the natural way. The outlook for this baby, with continuous thyroid treatment, is very good, and there seems to be no reason why it should not develop normally. But, of course, the thyroid must be always given. If it be omitted for any length of time the child will return to its cretinoid aspect. On the other hand, in the other cases where treatment has been begun at six years of age or later the outlook is not by any means so hopeful. Yet they, too, as you have seen, are at once made brighter mentally, more active physically, and their nutritive processes will continue under the thyroid in a manner approximately normal. But it is not probable that any one of them should arrive at his full stature or with intellectual faculties as bright as if he had been put upon the thyroid in infancy. So long as the profession at large does not recognize this disease, I feel there is good reason for bringing such cases before you, and for endeavoring to spread, by means of descriptions and photographs, a knowledge of the condition and its appropriate treatment.

These cases throw but little light upon the question whether or not the slight fever during the period of rapid loss in weight is due to restitution of the normal metabolic processes by the administration of the thyroid. The temperature chart in Case I seemed to indicate that such might be the case, but the charts of Cases II and III cannot be so interpreted because of the complicating conditions. Neither is the question of leucocytosis answered by these cases. Case I had more than 6000 whites in each of two counts, and Case II had just this number in the single count made. In both cases the hemoglobin was near 60 per cent. In none of these cases was the urine examined quantitatively and qualitatively with a view of determining the relative proportions of the urinary salts before and after the administration of the thyroid extract. In the beginning the patients are so dull that it becomes next to impossible to collect the twenty-four hours' urine.

In closing, I want to thank Mr. Underhill, another of our students, for the excellent photographs of two of the cases.

CURETTING THE URETHRA IN THE TREATMENT OF CHRONIC POSTERIOR URETHRITIS.

By George Walker, M.D.,

Iustructor in Surgery, Johns Hopkins University.

For some time past Kollman and other German surgeons have practiced curetting the urethra; but the scope of the operation in their hands has been limited, it being restricted to peri-urethral abscesses and deep urethral ulcers. Fuller speaks of the use of the curette, but mentions it only in connection with granulation of the urethra, and says that in such cases it has been used, but the sound is much more efficacious. During the last few months I have extended the use of the curette, and have found it very beneficial.

I have applied it to very chronic cases which have withstood the treatment by dilatations and various irrigations. These have shown by endoscopic examination that the posterior urethra, mainly in the bulbous portion, was the seat of a hard infiltration which extended well down beneath the surface; the mucous membrane was very much congested, and in places eroded by granulation tissue and small ulcerated patches. In this pathologic condition, as has been shown by autopsies on similar cases, the gonococci have infiltrated the epithelial layer, and in some cases penetrated the muscular coat. They are usually associated with other diplococci and bacilli. It becomes apparent, therefore, that any treatment to be effective in these cases must be radical.

Not being able to find a suitable curette in the market, I had one made by Mr. Charles Neuhaus. It does not essentially differ from the ordinary curette used for other purposes, except that it is long and very slender; the curetting end is round, cup-shaped, measuring 2 mm. in diameter, and is very sharp.

Preparatory to the operation the urethra is thoroughly irrigated with a 1 to 40,000 bichloride solution, and then a 4 per cent. cocaine solution is instilled and held five minutes. An endoscopic tube, as large as possible, is introduced, and the diseased spot is localized by illumination. The curette is next applied and the portion in view thoroughly scraped, so that the diseased tissue at this place is entirely removed, and along with it the epithelial layer and submucous tissue if necessary. After this has been done a 10 per cent. solution of nitrate of silver is applied to the spot by means of a cotton pledget. The endoscope is then pulled slightly forward, and another area is treated in the same manner. If the disease has extended deeply, so that much superficial tissue needs to be removed, it is best to do only a small amount at one sitting—say not more than one centimeter in length. In some cases, where the bleeding is extensive, the light must be dispensed with, for the

blood soon obscures the lamp. I have found that after a little practice one can judge by the touch, and can work almost as well without direct vision. The bleeding in most cases is slight, and almost immediately subsides. The pain is slight, and if the cocaine has been rightly applied there is scarcely any sensation.

Following the treatment, there is usually set up a rather profuse purulent discharge, which lasts for one or two days. On microscopic examination it is found to be loaded with small, short bacilli, diplococci, and usually a few gonococci. For this I have used a twice-daily irrigation of 1 to 50,000 bichloride solution. Some irritation and soreness are complained of during micturition, but this is only slight.

I have been using this treatment for the past five or six months, and can speak warmly in its praise, as several very obstinate and long-standing cases, which I had been treating for some time without apparent benefit, were cleared up after three curettements.

A REVIEW OF SOME OF THE RECENT WORK ON THE PHYSIOLOGY AND PATHOLOGY OF THE BLOOD.

By Thomas R. Brown, M.D., Baltimore.

(CONTINUED FROM FEBRUARY, 1901.)

VI. LEUCOCYTOSIS, INCLUDING EOSINOPHILIA.

In this section we will only consider the general subject of leucocytosis, including eosinophilia.

Obviously the most interesting and important work upon this subject is that which has been done in this connection in special diseases and pathological conditions, and will be found under Section VII. Of especial interest are the articles on leucocytosis in tuberculosis, in pregnancy, during labor and the puerperium, in diseases associated with convulsions, in pertussis, in diphtheria, and in diseases of the stomach, the articles on eosinophilia in trichinosis and various skin diseases, those on the leucocytes in typhoid fever, various other infectious diseases and general paralysis, and those on the characteristics of the blood in cardio-vascular diseases, in gout, in cancer, and other diseases of the stomach, in chorea, in beri-beri, in the functional neuroses, after thyroidectomy, in eclampsia, in epilepsy, in scarlet fever, in diabetes mellitus, in syphilis, and in nephritis. As stated before, all of these will be carefully considered under Section VII.

(a) *Ordinary, i. e., Polymorpho-nuclear Neutrophile, Leucocytosis.*

The interpretation of the ordinary leucocytosis, *i. e.*, where the increase is confined practically entirely to the polymorpho-nuclear neutrophiles, is discussed by Burch (*New York Medical Journal*, March 31, 1900, p. 466), who, however, contributes nothing of special value. According to him an easy practical way to deter-

mine the presence or absence of a leucocytosis and the relative proportion of the various white-blood cells is to remember that normally under the high power, there should be two polymorphonuclear neutrophiles to each field, one small mononuclear to five fields, one large mononuclear to ten fields, and one eosinophile to twenty fields. These proportions, of course, vary distinctly. Thus in infancy the proportion of small mononuclears may be doubled, while after a meal rich in proteids they are also increased. One should also not forget that a true physiological leucocytosis occurs in pregnancy, after the ingestion of food, after violent exercise, massage and cold baths. While the methods of Burch give results which roughly approximate the truth, one cannot help feeling that the exact results obtained with our modern instruments of precision are worth the slightly increased expenditure of time, and should be advised wherever practicable.

The resistance of the leucocytes to destructive influences is well shown by the work of Nakanishi (*München. med. Wochenschr.*, May 1, 1900), who, by means of his method of vital staining, proved that the leucocytes can preserve their life for as long as from ten days to four weeks after removal from the body.

Head (*Pediatrics*, February 1, 1900) insists on the value of making blood-counts in the *diseases of children*. The points he lays special stress upon are the presence of a greater number of leucocytes per cubic millimeter normally in children than in adult life, the prognostic value of the leucocyte-count in otitis media; its value in diagnosis and prognosis in appendicitis, pneumonia, typhoid, pulmonary tuberculosis, meningitis and osteomyelitis; the absence of leucocytosis in measles, and its presence in scarlet fever, where it is especially pronounced, in diphtheria, tonsillitis and acute articular rheumatism, and the presence of a normal or diminished number of leucocytes in *la grippe*. Decastelle (*Wiener klin. Wochenschr.*, April 13, 1899) furnishes an extremely interesting article and one of great value on *the influence of vascular changes and blood-pressure on leucocytosis*. His conclusions are as follows: (a) Strong stimulation of sensory nerves produces a leucopenia (diminution of leucocytes); (b) this result is dependent upon the reflex contraction of the abdominal vessels and the retention of leucocytes therein; (c) direct stimulation of the vaso-constrictor nerves of a certain territory causes leucopenia in the blood issuing therefrom; (d) the administration of vaso-constricting substances has the same effect, only in a higher degree; (e) the effects of shock (which causes leucopenia) depends on similar vaso-constrictor phenomena; (f) the dilatation of vessels after section of the controlling nerves (splanchnics) has no influence upon the number of leucocytes; (g) reduction of blood-pressure produces only a transitory leucopenia; (h) in the experiments described the leucocyte-count reaches its minimum in from three to four minutes, the original number being reached in from ten to sixteen minutes; (i) the marked leucocytosis in the splenic vein is due to the expression of leucocytes from that organ; (j) after the injection of substances

producing leucopenia the leucocytes collect in the capillaries of the lung.

In SURGERY the count of the leucocytes is becoming of greater and greater value. Hubbard (*Boston Medical and Surgical Journal*, 1900, CXLII, p. 409), however, comes to different conclusions. He considers 13,000 the highest possible normal leucocyte-count. One hundred and eighty-nine non-inflammatory cases (cysts, fibroids, extrauterine pregnancies, tumors, chronic appendicitis and gallstone cases) averaged 8811 leucocytes per c. mm.; seventy-one cases of inflammation not so great as to form pus, 12,645; 299 cases of pus formation, 17,696. In the first group the counts varied from 4000 to 25,800; in the second from 5600 to 32,000; in the third from 4800 to 47,000. Counts common to all three were found between 5600 and 25,800. Hubbard therefore concludes that as "most of the counts fall within these limits they are of no practical value to the surgeon when brought face to face with an individual case, and from our present knowledge of the causes and variations of leucocytosis we cannot yet make any deductions which are simple enough to be of any great use to the surgeon at the bedside."

We feel obliged to take issue with these conclusions of Hubbard. Granted his figures are correct, it is not so much the establishment of fixed rules concerning the relationship between leucocytosis and disease in a large number of cases that is of service to the surgeon as the results obtained by frequently counting the leucocytes in the individual case, which are of inestimable value in determining whether the pathological process is increasing or decreasing. Certainly in this connection repeated leucocyte-counts are of very great assistance in determining whether or not an operation should be performed.

Dunham (*Annals of Surgery*, June, 1900) concludes that the leucocyte-count in surgery is of the greatest value in diagnosing acute inflammatory conditions, and that it is a safe guide if other influences can be excluded. He insists upon the importance of making two or more counts at intervals, this being especially useful in the early stages of appendicitis to determine whether the inflammatory process is increasing or decreasing. As influences which may cause leucocytosis in patients undergoing surgical treatment he mentions a hearty meal, the first years of life, hemorrhage, ether-anesthesia, the absorption of iodoform, and carcinoma and sarcoma.

Chadbourne (*Philadelphia Medical Journal*, February 18, 1899, p. 390) reports twenty-one cases, all showing leucocytosis after the administration of ether. Their most rapid increase occurred during the first part of the anesthetization, and according to Chadbourne is probably due to irritation of the mucous membrane of the respiratory tract by the ether vapor.

EXPERIMENTAL LEUCOCYTOSIS is a subject of great interest in throwing light upon the question of the mode of increase of the leucocytes and the theory of chemotaxis. Gemünd (*Münchener*

med. Wochenschr., XLV, No. 8) discusses the production of leucocytosis experimentally by the administration of guajacetin. After giving this drug by mouth to dogs, rabbits and guinea-pigs a leucocytosis was regularly noted. Bactericidal properties of the blood, however, were not increased.

Bohland's (*Centralblatt für innere Medicin*, 1899, No. 17) research on "The Chemotactic Action of the Toxins of the Typhoid Bacillus and the Colon Bacillus on the Leucocytes" possesses a great practical as well as theoretical value, as it explains the peculiarities of the leucocyte-counts in infections with these two micro-organisms, and also offers a means for their differentiation. Bohland found that the toxins of the bacillus typhosus obtained from cultures of that micro-organism regularly had a negatively chemotactic effect upon the leucocytes, while the toxins obtained from the cultures of the colon bacillus had a positive chemotactic action. He suggests the value of this difference in chemotactic properties as an aid in distinguishing these micro-organisms one from the other. He also found that the serum of typhoid patients was invariably negatively chemotactic.

(b) *Eosinophilia.*

The subject of eosinophilia will be more carefully considered under Section VII, especial attention being paid to the increase of these cells in trichinosis and skin diseases. Here we will speak only of the general significance of these cells and of their mode of origin. And perhaps before doing this it will be well to call attention to the prevailing theories regarding the eosinophiles and their mode of arising from pre-existing cells.

The views most commonly held are (a) that they arise from pre-existing eosinophile cells in the bone-marrow, and that their increase is brought about by the presence in the blood of positively chemotactic substances which attract them from this source; (b) that they arise from the polymorpho-nuclear neutrophiles, the transition taking place according to some in the blood, according to others in the lungs, in the skin, in the muscles or in other tissues of the body; (c) that they arise from fixed tissue-cells or from plasma-cells. All of these theories have arguments in their favor, and it is possible that all may be correct, the mode of origin differing with the peculiarities of the special case. This subject will be discussed further under trichinosis in Section VII.

Klein (*Centralblatt für innere Medicin*, 1899, Nos. 4 and 5), from a careful study of a case of his own and two cases of Harmsen's, in which there was a pleurisy with hemorrhagic effusion, from the finding of large numbers of eosinophiles (74 per cent. in his case) in this fluid and the presence of a steadily increasing number of eosinophiles in the circulating blood (in his case 12.5 per cent. at first, 40 per cent. subsequently), concluded that the presence of eosinophile cells in diseased areas is not pathognomonic of some specific disease, but is brought about by the extravasation of a certain amount of blood or blood-pigment into the tissues. The

eosinophiles, according to him, are the result of changes in other cells, probably neutrophiles, which have ingested blood-pigment, and have by this means produced eosinophilic from neutrophilic granulations. The large numbers of eosinophiles in the circulating blood he believes to be brought about by the subsequent escape of these cells from the affected tissues into the blood-vessels.

Piotrowski and Zaleski (*Centralblatt für innere Medicin*, 1899, No. 22) bitterly oppose Klein's conclusions, and accuse him of building a theory upon an isolated case, while forgetting that in the great majority of cases associated with extravasation of blood, such as fractures, contusions, infarcts, hemorrhages into the lung tissue, pneumonia, etc., there is neither a local increase of eosinophiles nor an increase in the circulating blood, both of which conditions should be present if his theory were correct. On the other hand, in various conditions not associated with hemorrhage, as bronchial asthma, there is both a local and a general eosinophilia. They therefore insist upon the correctness of Ehrlich's views, that the various forms of leucocytosis are the result of the action of special chemotactic substances.

Noesske (*Deutsch. Zeitschr. für Chirurgie*, April, 1900) contributes an article of interest on eosinophile cells and bone-marrow, particularly in their relations to the infectious surgical diseases and to tumors. From his studies he concludes that the eosinophiles play the *rôle* of protectors against the invasion of bacteria, as they appear on surfaces exposed to infection. It seems also possible that the eosinophile granules may be changed into pigment particles (as in the cutis). Where eosinophiles are, according to Noesske, there has been an inflammation at some time, as the eosinophiles are produced as a reaction against a certain localized irritation, and this reaction is a protection against matter which may cause inflammation. As shown by Ehrlich, the bone-marrow is responsible for the greater part of the production of eosinophiles.

(*To be continued.*)

DR. KEEN'S REPLY TO THE AMERICAN HUMANE SOCIETY.

IN the *Journal of the American Medical Association* for February 23 Dr. W. W. Keen publishes a letter from the president of the American Humane Society, demanding proof that references in the pamphlets of the society are "vague and indefinite," and that quotations are "garbled and inaccurate." It is needless to say that Dr. Keen, is his reply, fully establishes the charges, so fully indeed that adjectives to which the Antiveracities objected seem to characterize their malversations vaguely and indefinitely. Berkley's observations on thyroid extract, of course, receive their share of attention, and in illustration of a part of Berkley's letter to the *British Medical Journal*, two pictures are reproduced from *Archives of Pediatrics* showing the result of four months' thyroid treatment of a cretin. This particular child, unfortunately, died of measles, otherwise she might have lived to be "Humane." If Antis can be perverted to the humble joys of honesty, Dr. Jacob's article in these pages may seduce a few.

Current Literature.

SURGERY.

Under the Direction of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

ECTOKELOSTOMY. Vitrac. *Revue de Chirurgie*, January, 1901.

Often, when operating on cases of strangulated hernia, the abdominal cavity is found to contain fluid possibly infected, and the question of drainage arises. The importance of obtaining per primam union is so great that often there is a strong temptation to close a wound which ought to be drained. The risk is foreseen, but often taken for the sake of a strong wall.

The author reports two cases which he has operated on by a procedure he calls "ectokelostomy." This means the displacement and fixation of the sac through a second opening. It somewhat resembles the Kocher operation for inguinal hernia. He advises it especially in the class of strangulated hernias referred to above, because the site of the rupture can be completely and effectually closed, while the drainage passes out through some artificial opening.

For illustration he takes a case of femoral hernia in man.

An incision below and parallel to Poupart's ligament is made over and down to the hernial sac. The forefinger of the right hand is now used to dissect the sac loose from surrounding tissue, the dissection being carried through the femoral ring and down to the peritoneum. At this point the forefinger is forced well up behind the inguinal canal and a little to the outside of it between the peritoneum and muscles. Having palpated the epigastric artery so as to avoid it, an incision 2 cm. long is made through skin and abdominal muscles down to the palpating finger. This incision lies above the internal ring.

A pair of forceps is then passed through this opening along the passage made with the finger and out through the femoral incision. The hernial sac, which has been previously emptied and pulled well out through the femoral opening, is grasped in the end of the forceps and drawn back through the opening, up the artificial passage, and brought out of the abdominal incision. This leaves the original track of the hernia free from sac and ready for any method of closure which may be preferred.

The drainage spoken of at the beginning is thus provided for. A piece of rubber tubing is passed down the sac in its new position and into the abdominal cavity. Sometimes difficulty is experi-

enced in inserting the tube because of the acute angle at the general peritoneal opening where the sac has been pulled upward.

The tube can now be sutured in place and left as long as deemed necessary.

* * *

A RAPID AND SIMPLE OPERATION FOR GALLSTONES FOUND BY EXPLORING THE ABDOMEN IN THE COURSE OF A LOWER ABDOMINAL OPERATION. Kelly. *Medical News*, December 22, 1900.

The author reports eight cases operated on for gallstones under the circumstances described in his heading.

When a primary incision is made in the lower part of the abdomen, either in the midline or, as in one case, over the site of the vermiform appendix, the hand is introduced into the abdomen, hugging the anterior abdominal wall, conducted up over the omentum and the colon as far as the liver, where the gall-bladder is easily discovered as a somewhat tense or flaccid sac. It is his practice to squeeze the gall-bladder and note the rapid collapse, showing that the cystic duct is pervious. Any stone present is easily felt through the thin walls by palpating from the cystic duct downward to the fundus of the gall-bladder. In order to remove a stone the gall-bladder should first be emptied by compression between the thumb and two fingers. This allows the stone to be hooked up by the first and second fingers to the top of the bladder, where it is then lifted firmly against the abdominal wall, which bulges forward distinctly. Care must be taken not to allow any loop of intestine or the margin of the liver to intervene between the bladder and the abdominal wall.

An incision 4 or 5 cm. in length is now made with the free hand down through the abdominal parietes, over the eminence directly upon the stone, cutting straight through layer by layer in a vertical direction. The white peritoneum is easily recognized, and when cut the two edges are caught by clamps. As the peritoneal incision is made larger, the gall-bladder, with the stone, appears in the incision. It is opened and its edges caught with clamps, and then the incision is made large enough to evacuate its contents. The stone is apt to pop out. The edges of the bladder are now united by a fine silk suture.

If the gall-bladder is normal it is unhesitatingly dropped back without a drain. If the walls are diseased the bladder, after being closed, is dropped and a small drain inserted. The abdominal wound is then closed and the operation completed within a few minutes of its commencement.

The primary operation in the eight cases was: 1. Lateral incision over appendix; 2. Median incision—hysteromyomectomy; 3. Median incision—myomatous uterus; 4. Median incision—cyst of right ovary; 5. Median incision—ovarian cyst; 6, 7 and 8. Median incision—hysteromyomectomy.

The author says: "I offer no apology for removing the foreign bodies by an operation so simple and so safe when the abdomen is once opened for some other more serious cause. I need but to refer to the distressing sequelae of a cholecystitis or a cholangitis, * * * also to the frequency with which stones are associated with cancer of the gall-bladder."

* * *

THE USE OF NITRITES IN THE TREATMENT OF SYPHILIS. Browning. *Medical News*, December 29, 1900.

Browning explains that the common interference with the arteries in syphilis leads him to advise the use of the nitrites to combat this. His object was not to substitute these drugs for mercury or the iodides, but to make use of them as vaso-dilators to distend the constricted lumina and thus allow the antisyphilitic agents a better chance to penetrate deeper and reach more effectively the sclerosed areas in tertiary syphilis. He thinks therefore that "the nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilis (cerebral, spinal, peripheral)."

Of the nitrites commonly used, nitroglycerine alone is a practical agent for long-continued administration. Nitrite of amyl is too evanescent in its effects, and the nitrite of soda is too irritating to be taken long. The tetranitrate of erythrol is much preferable to the soda salt, and is also preferable to nitroglycerine, in that it does not cumulatively lose its effect, as is the case with nitroglycerine, and its action is slower. The dosage is from one-half to one grain.

* * *

HERNIAS IN EARLY INFANCY. Taillens. *Centr. f. Chir.*, No. 2, 1901.

Taillens has carefully studied eighty-one cases of hernia in children under two years of age. Fifty-eight cases were boys and twenty-three girls. All cases were treated without operation, with sixty-seven cures—83 per cent.

The hernia was inguinal in fifty-three cases, with forty-four cures—83 per cent., and umbilical in twenty-eight cases, with twenty-three cures—82 per cent. Half of the cases were cured with a bandage within four months, eleven cases in from four to six months, fourteen cases in more than six months; six cases were cured without any bandage.

The failures were due to neglect, to unfavorable conditions of the hernia itself, or to complications, severe coughs, defective formation of the canal, etc. Treatment by retentive apparatus, bandages, etc., should be tried for hernia in children under two years of age, but after that age operation should be adopted at once.

A NEW AND SIMPLE METHOD OF STERILIZING SPONGES. Elsberg. *Centralbl. f. Chir.*, December 22, 1900.

Elsberg comments on the fact that while sea sponges are by far the best agent for absorbing fluids from wounds, their use has been largely done away with for the lack of reliable methods for their sterilization, since boiling spoiled their consistence and absorbing power.

After much experimentation the author now proposes a method similar to a method of catgut sterilization previously proposed by him, viz.: 1. The sponges are first immersed for twenty-four hours in an 8 per cent. hydrochloric-acid solution to free them from chalk and dirt, and then washed out in water. 2. Boil for from five to twenty minutes in the following solution: Caustic potash, 10; tannic acid, 20; water, 1000. 3. Wash out in sterile water or a carbolic or sublimate solution until they are freed from the dark-brown color given by the potash-tannic-acid solution. 4. Preserve in 2 to 5 per cent. carbolic solution. Through these procedures sponges lose none of their physical characteristics, size, porosity, elasticity, softness, etc., even when boiled for an hour.

The potash-tannic-acid solution can be used again, it being necessary only to replace the water which has boiled away. Culture experiments showed that large sponges previously infected with various bacteria, including anthrax spores, were rendered sterile after less than five minutes' boiling in the potash-tannic-acid mixture, followed by rinsing with sterile water.

The author thinks this simple and sure method should inaugurate a return to the use of sea sponges in surgery.

* * *

RESULTS OF OPERATIONS FOR THYROID TUMORS. Davis. *Boston Medical and Surgical Journal*, December 27, 1900.

Davis gives a careful compilation of the statistics of operations for goitre. There has been a rapid decline in mortality during the last fifty years—from 50 per cent. in 1850 to 15 per cent. in 1883, and to 3 per cent., or less, in 1900.

The great statistical collection of Reverdin from 1882 to 1898, of 6103 cases of simple, non-malignant goitre, showed 176 deaths—a mortality of 2.88 per cent. Considering the fact that this represents a large number of operators of varying skill the result is splendid. Much more brilliant results, however, have been achieved by certain individual operators, most notably Kocher, who reports 600 cases between 1895 and 1898, of which 556 were benign, with but one death, and that due to chloroform—a mortality of .18 per cent. The operation performed by him in the majority of cases was a partial extirpation.

Socin, in 1898, had had one death in his last 200 cases, the operation of enucleation being preferred by him. Kronlein had 200 cases, without a death.

Among 3408 operations, of which Reverdin had details, there were 118 deaths, distributed as follows:

137 total extirpations	26 deaths	18.98 per cent.
1212 partial extirpations	42 deaths	3.46 per cent.
1276 enucleations	10 deaths	.78 per cent.
345 resections	23 deaths	6.66 per cent.

These figures show a smaller mortality for the enucleation method, but Kocher's last report of 1426 cases shows a practically identical mortality for partial extirpation (.84 per cent.).

In ninety-six of Reverdin's fatal cases the causes of death were as follows: Pneumonia, etc., 32; asphyxia, 10; collapse, 12; hemorrhage, 19 (none after enucleation); entrance of air into veins, 9.

Post-operative Complications.—Although healing occurs by first intention, fever is very generally present after thyroid operations, and is supposed by some to be due to absorption of thyroid secretion set free during the operation.

Myxedema is a rare sequence, except where total thyroidectomy is done, being then present in 25 per cent. of the cases. Its failure to appear after all cases of complete extirpation of the gland is probably due to the presence of accessory thyroids in the neck or chest.

Tetany followed five times in 137 cases of total extirpation—3.64 per cent. Disturbance of phonation, due to injury of the laryngeal nerves, occurred in 4.7 per cent. of the partial extirpations, but in only .86 per cent. of Reverdin's cases. Kocher had seven in 900 cases, but it was always temporary in cases of benign goitre.

After partial removal of the thyroid there is always a liability to a slight recurrence of the growth or further enlargement of the remaining portion. But in 800 cases collected by Bruns only twelve required a secondary operation.

Malignant goitre has a high mortality (33 per cent., Kocher). A large per cent. recur, and sarcoma is rarer and more fatal than carcinoma.

Exophthalmic Goitre.—Of the three methods in vogue the results are after:

(1) Removal of a portion of the thyroid gland—177 cases, cure in 57 per cent., improvement in 26 per cent., no improvement in 2 per cent., death in 13 per cent.

(2) Ligature of the thyroid arteries—71 cases, cure or improvement in 76 per cent., death in 8 per cent.

(3) Resection of the cervical sympathetic nerves—50 cases, cure in 22 per cent., improvement in 58 per cent., death in 12 per cent.

NEUROLOGY.

Under the Supervision of Robert Reuling, M.D., Baltimore.

The Pathology of Herpes Zoster and Its Sensory Localization. Henry Head and A. W. Campbell. *Brain*, Part XCI, 1900. Part III.

After reviewing this excellent and complete study of the pathological changes of herpes zoster one feels little hesitancy in expressing the belief that its morbid anatomy now rests on a solid foundation, and that the authors have established fully their claims in regarding it as a disease of the central nervous system.

The article consists of 158 pages, and contains the clinical histories and the pathological findings of twenty-one cases of herpes zoster, also numerous charts, excellent microphotographs and cuts of drawings. They were fortunate enough to be able to include in their studies the tissues from cases in which herpes developed only a few days before death. The work is of special value, as the latest staining methods were employed.

That the ganglia of the posterior roots and, indeed, the cord itself should show well-marked evidences of the pathological process after a long time had elapsed (790 days) seems rather remarkable in a disease the morbid anatomy of which has for such a long time been a fruitful field for discussion. That gross changes should be readily recognizable with the eye in certain instances is not strange if we consider that acute inflammation and hemorrhages may occur into the tissues of the affected ganglion; in fact, these gross changes were described in herpes in the epoch-making article of Bärensprungs in 1861, the first observer to clearly demonstrate the disease as one primarily affecting the central nervous system. He describes the gross changes as follows:

"Nachdem die Intervertebralkanäle geöffnet und die Intercostalnerven vom 5ten bis zum 9ten freigelegt waren, fiel sogleich eine grössere Dicke und vermehrte Röthung des 6ten, 7ten und 8ten, am meisten aber des 7ten auf, die von einer Anschwellung des mit erweiterten, stark geschlängelten Gefässen durchzogenen Neurilems vorzugsweise abzuhängen schien. Der Durchmesser des 7ten Nerven übertraf fast um die Hälfte den des 5ten und des 9ten Intercostalnerven. Die 6ten und 8ten Nerven zeigten die nämliche Röthung und Anschwellung, aber etwas weniger stark und auf eine kürzere Erstreckung als den des 7ten."

In Bärensprung's case death occurred forty days after the appearance of the eruption.

A short review of the conclusions arrived at by Head and Camp-

bell should be of interest. To be fully appreciated the reader must consult the original article:

Chapter I.

CHANGES IN GANGLION OF POSTERIOR ROOT.

"If the patient has died with the eruption still out upon his skin the affected ganglion will be found to be in a condition of profound inflammation. The interstitial tissue will be crowded with small, round cells, which stain deeply with methylene-blue and other nucleated dyes. * * * Thus the intensity of the inflammation in the interstitial tissue of the ganglion is such that blood is extravasated. It may be only as a microscopic hemorrhage, or it may be in sufficient quantity to produce an actual swelling of the affected part. In the center of these hemorrhagic foci the ganglion cells are absolutely destroyed, but in the surrounding zones of small, round cells the remains of ganglion cells can be generally seen in the form of pale masses, which do not stain with methylene-blue. By Nissl's method these cells stain of a uniform blue color, which is so intense that no nucleolus and no trace of the normal reticular arrangement of the nucleus is recognizable. The substance of the bodies of these cells has a uniform blurred appearance, entirely devoid of definite structure, and the chromophilic particles of Nissl's are completely obscured. Over that portion of the ganglion which is inflamed the sheath generally shows similar changes. The vessels are engorged, and occasionally blood may be extravasated. The greater the severity of the eruption and the profounder the scarring it leaves behind it the more certainly will permanent changes be found in the posterior root ganglion. Thus out of thirteen cases that were examined between fifty-seven and 790 days after the eruption appeared, eleeven showed obvious microscopical evidence of past inflammation in the posterior root ganglion."

Chapter II.

CHANGES IN THE POSTERIOR ROOT.

"It is obvious that with so considerable a destruction in the posterior root ganglion secondary degeneration must occur in posterior nerve root to an equivalent extent. In fact, we are here dealing with a lesion as strictly localized as that of any experiment. This degeneration of the usual acute type by the Marchi method is seen to consist of a profound disintegration of the myelin sheath. The broken-down sheath stains deep black, and black dots can be seen lying in rows like broken beads within the primitive sheath."

Chapter III.

CHANGES IN THE PERIPHERAL NERVES.

"Eight days after the eruption no acute degeneration could be found in the peripheral nerves in connection with the affected ganglion, but thirteen days after degeneration was present to a

marked degree. By Marchi's method the degenerated fibers show the same breaking up of the myelin sheath and irregularity of outline already described when considering the changes in the posterior roots, appearances identical with those seen after an experimental lesion. * * * This degeneration can be traced right back to the fine twigs which pass upwards into the skin and supply the area over which the eruption is distributed."

CHAPTER IV.

DEGENERATION IN THE SPINAL CORD.

"When a posterior root ganglion is excised, or a posterior root divided experimentally, acute degeneration takes place in those fibers which, entering the spinal cord by the root, run upwards in the posterior columns. Thus it is not surprising that such lesions of the ganglion as we have described in the previous section should be attended by acute degeneration of the root fibers in the posterior columns of the spinal cord. In Case 3 acute degeneration was present to a marked degree eleven days after the first appearance of the eruption. Thirteen (Case 4) and fourteen days (Case 5) after the eruption first appeared this degeneration was extremely well marked, and appeared to have almost reached its full development.

"The course followed by the degenerated fibers in the spinal cord is exactly that which might have been expected from the known results of experimental division of posterior roots."

* * *

A CASE OF OPHTHALMOPLEGIC MIGRAINE. Paderstein. *Deutsch. Zeitsch. f. Nervenheilkunde*, Vol. XV, 1899, p. 418.

Paderstein reports a typical case of this affection, first described by Möbius under the title of "Periodic Recurring Oculomotor Paralysis." The subject was a man, twenty years old, who had since childhood attacks of oculomotor paralysis, which lasted five days, and recurred with remarkable regularity every four weeks. In the intervals his condition was absolutely normal.

This condition differs somewhat from cases of migraine, which are occasionally associated with paresis of individual eye muscles. A case of this nature is also reported by the author. In this patient the attacks appeared less regularly than in the affection described by Möbius, and only some of the attacks of migraine are complicated with paralysis. Paralysis, when present, affected the trochlear and abducens. Paderstein also reports in this article a number of interesting cases which show certain phases of both the recited conditions. In some of these the migraine is at times unassociated with paralysis, at times the oculomotorius is involved, at times only certain branches, and again other nerves supplying eye muscles. The etiology of the disease is not clear. He believes it depends on an autointoxication with neuritis.

A Contribution to the Differential Diagnosis of Multiple Sclerosis. Gerhardt. *Deutsch. Zeitsch. f. Nervenheilkunde*, Vol. XV, p. 458.

The first portion of this instructive article deals with the possibility of mistaking this disease with the following conditions, and gives the points of differential diagnosis in each condition, namely, paralysis agitans, hysteria, tumors of the cerebellum or optic thalami, progressive paralysis of insane. But that portion of the article which is of greatest interest deals with the differential diagnosis between multiple sclerosis and the diffuse sclerosis of the brain and cord which may so closely resemble one another in clinical course. He reports a case of this diffuse sclerosis occurring under his personal observation, and which very clearly illustrates the similarities and differences in the clinical pictures of the two sclerotic processes.

Gerhardt's patient first developed an intention tremor, spasticity of the extremities and scanning speech, the mental faculties being undisturbed, so that the case in every respect appeared a typical example of multiple sclerosis, except that there was no nystagmus. Later a progressive mental deterioration appeared, also muscle tremors, and constant grinding together of the teeth, with marked lateral movements of the jaw. The pupilary reaction remained intact. The autopsy revealed a marked increase in the consistency of the brain and cord, and a moderate degree of degeneration in the pyramidal tracts. Microscopical examination showed a diffuse increase of glia elements, and increase in the perivascular connective tissue, besides a slight atrophy of the cerebrum, especially of the frontal lobes. Gerhardt, in discussing the pathological changes, excludes general paralysis, and points to the following clinical differences between diffuse sclerosis and multiple sclerosis: "In the diffuse form there is absence of nystagmus, a progressive degeneration of the mental faculties is present, muscle tremors, and the occurrence of an arthritic disturbance which may closely resemble scanning speech."

* * *

Diffuse Degeneration of the Spinal Cord. James J. Putnam, M.D. Pathological Study, by E. W. Taylor, M.D. *The Journal of Nervous and Mental Disease*, January, 1901.

About nine years ago Putnam published a brief discussion on diffuse degeneration of the spinal cord based on the observation of eight cases, four of them with autopsy. The condition occurred in enfeebled persons past the middle age, and especially in women. Although the same changes have received the attention of numerous neurologists, Putnam was one of the first to bring the subject before neurologists of America, and his original communication contained some entirely original observations on this form of spinal degeneration. The sclerotic process may be found in a

variety of conditions associated with a general anemic or debilitated state of health. It is, however, most frequently found in connection with pernicious anemia. As the author points out, Bastianelli, in 1896, was the first European observer to attempt a classification of these degenerative processes.

He suggests the division into two groups. In the first group it is the anemia which dominates the scene, the spinal lesions making themselves felt only towards the end of life, when they develop with great rapidity. In this group belong many of the classical cases reported by Lichtheim, Minnick and others. In the second group, in which the more chronic cases classify, including most of those reported by Putnam and Dana, the essential feature, Bastianelli thinks, is the disease in the nervous system, the malnutrition being of secondary importance. The disease of the central nervous system in this second group occasionally strikes beyond the limits of the spinal cord, involving the optic nerves.

The anatomical lesions, Bastianelli thinks, differ somewhat in character. In the cases of the first group they are relatively slight and scattered, and the lateral columns in particular are relatively little affected, while in those of the second group they are more pronounced, and the lateral columns are sharply and extensively involved. Putnam does not exactly agree with the opinions of Bastianelli, but says the grouping is nevertheless of value. He does not find it to be invariably true that in the more chronic cases, in which the nervous symptoms have played a prominent part for many years, the spinal lesions are necessarily most marked.

The fifty cases reported in this article by Putnam are almost entirely derived from his private practice. Of these fifty cases, seven showed a profound anemia, characterized by serious and well-marked blood changes (low red-count, megalocytes and poikilocytosis), and of these seven, five were males and two were females. In contrast with these figures, it is noteworthy that of the remaining forty-three patients, thirty-one were women and twelve were men. Indications of syphilis were exceedingly rare.

Age.—As regards the ages of the patients, twenty-three were fifty years old, or more at the time of the onset of the disease, and all but five were over thirty years of age.

Nutrition.—A general lack of vigor, usually from childhood, often accentuated by family or business worries, was conspicuous in a large proportion of the cases. Spare and sallow, when not distinctly anemic, men and women made up by far the greater number of patients. Yet even this statement is not to be taken without exception, as there were a few who had no special complaint to make of their previous health.

Diarrhea.—Only present, in a distinct form, in six or seven cases.

A family history of neurotic tendency or constitutional weakness is fairly common. In a great majority of cases of the "simple de-

bility" group the patients' antecedents were not striking, and not other than one would except in the family history of persons with poor nutrition.

Symptomatology. Paresthesias.—In the early history of his cases one or another form of this symptom was strikingly prominent; usually felt first in the feet, then in the hands, affecting either all the fingers alike or in the median or ulnar areas by preference; but the proximal segments, as the shoulders or thighs, were occasionally attacked early, if not first, as occasionally occurs in tabes.

Sudden onset, or rapid increase of numbness, is occasionally seen, affecting one or another part, and, on the other hand, it may improve slightly, or even pass away for a time. Micturition may be involved early. Disturbance of the rectal sphincter, though met with, is not common until later in the disease, when it occurs in connection with paraplegia.

Mental State.—Some of the patients showed a well-marked mental instability.

Etiology.—This, he says, "admits of a solution only within narrow limits. An inheritance of feeble nutrition, anxiety, overwork, gastro-intestinal disorders, perhaps metallic poisoning—such influences as these form a body of predisposing causes the action of which we can, in a measure, guess at."

Duration.—As Putnam points out, this is very variable. Among his cases with pernicious anemia two cases lived less than one year, one case between one and two years, one case between two and three years. Of cases without pernicious anemia one lived less than one year, four cases between one and two years, five cases between two and three years, two cases between three and five years, and one case more than five years.

Of the patients who are still living, a good many have had symptoms for three to five years, and a few even longer.

The article in this number of the *Journal* ends with the clinical histories of two cases of this form of spinal degeneration. The pathological report will no doubt be given in another number, and will be awaited with much interest. Much important knowledge can be gained by a careful study of this remarkable group of spinal-cord affections as leading to a more correct understanding of degenerative changes in the cord in general, more especially the changes which are most certainly due to certain poisons acting on the central nervous system. The views of Risien Russell on this subject are of special interest. They appear in *Brain* (Spring), 1900.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD NOVEMBER 19, 1900.

THE meeting was called to order by the president, Dr. Wm. H. Welch.

Dr. Marshall: "Exhibition of Pathological Specimens—1. Ulcerative Endocarditis; 2. Cystic Kidney and Liver."

The heart specimen exhibited was obtained from a patient admitted to the hospital September 6, in whose case the clinical diagnosis of acute endocarditis, with adherent pericardium and evidences of former heart lesions, was made. The specimen was of interest in that it demonstrated these lesions so accurately. Evidences of former attacks of endocarditis were found in the presence of old patches of thickening on the mitral valve and its chordae tendinae. The more recent attack apparently started on the aortic valve. There was an ulceration through the left segment of this valve, and shreds of fibrous tissue ran from this into the sinus of Valsalva and then along the under surface of the valve to the auricular surface of the mitral valve. In addition to the valvular lesions, there was a general hypertrophy of the entire heart, and the pericardium was closely adherent to its whole surface.

Dr. Marshall discussed briefly the differences between the infectious and non-infectious types of endocarditis, and made special reference to recent work on the former type. He believed that it was impossible to determine that any particular organism would always produce a certain lesion, and said that sometimes the supposedly milder bacteria produced very severe lesions, and *vice versa*. It has been said by some recent writers that the staphylococcus aureus is likely to produce the ulcerative form of endocarditis, while the streptococcus and pneumococcus are more likely to result in the production of widespread vegetations.

The kidney and liver specimens were obtained at an autopsy upon a Bayview patient whose history was not well known. He had been admitted to the hospital suffering principally from a severe diarrhea. At the autopsy it was found that the terminal affection had been an enteritis, and with this an endocarditis. The patient, however, proved to be a veritable pathologic museum in himself, for, in addition to the troubles above mentioned, he presented evidences of an arthritis, a healed fracture of the humerus, tuberculosis, bronchial pneumonia, cholelithiasis, a carcinoma at the fundus of the gall-bladder, with metastases in the liver, and a congenital cystic kidney on one side.

Dr. Dare of Philadelphia: "The Mechanism of a New Hemoglobinometer."

The essential parts of this instrument are an automatic pipette for collecting the blood and a graduated color scale to measure, by comparison, the percentage of hemoglobin. The pipette for collecting the blood is composed of an oblong plate of white or opal glass, into the end of which is ground a depressed surface exactly parallel with its plane surface and of measured depth. This depression forms a very shallow capillary chamber when the transparent glass is placed over it and the two clamped

tightly together. This space fills automatically by capillary attraction when either of its three free edges comes in contact with a blood drop. When so filled the pipette is placed upon the stage of the instrument and compared with a color scale composed of a semi-circle of tinted glass, the periphery of which represents an increasing shade of color from apex to base, secured to a disc of opaque glass to furnish a background against which the color shades would be best appreciated. The blood and the scale, placed side by side, are viewed through achromatic lenses fitted into a telescopic tube, and the comparison adjusted by means of a milled head, which rotates the color prism until the same corresponds in depth of color with the blood. The operation is completed by simply reading off the percentage of hemoglobin as indicated by the scale affixed.

It was claimed that a hemoglobin estimation could be made in from one to two minutes, and that comparative tests had shown it to be quite as accurate as the instruments in common use today.

In reply to questions, Dr. Dare stated that the instrument possessed another advantage in being cheaper than the other instruments. It is manufactured by Queen & Co., and costs about $15.

Dr. Rusk: "Congenital Absence of the Pectoralis Major and Minor."

The patient exhibited had been admitted to the gynecological service for operation, and in the course of a physical examination this anatomical abnormality, which had not given rise to any trouble, was discovered. No evidence of either pectoral muscle could be obtained either by palpation or electrical stimulation. There were no other anatomical peculiarities in the patient and no history of such anomaly in other members of the family. H. O. R.

MEETING HELD FEBRUARY 4, 1901.

The meeting was called to order by the president, Dr. Welch.

Dr. Osler: "A Case of Xanthomata Multiplex."

The patient, a white woman, aged thirty-nine, had typhoid fever, with cholelithiasis, in 1897, and since December, 1899, had suffered three attacks of biliary colic, all characterized by pain, vomiting, chills, fever, sweats and jaundice, and following each attack the jaundice had materially deepened. The case so far resembled the ordinary form of jaundice associated with a stone in the common duct, but it presented in addition the very unusual condition of numerous yellow patches in the skin, distributed over the hands, elbows, axillae, neck and toes, with one patch on the mucous membrane of the upper lip. These patches were in appearance exactly like those seen on the eyelids in the condition known as xanthelasma palpebrarum. Dr. Osler remarked that these cases were extremely rare, but that the xanthelomata do sometimes occur in young persons, both with and without the associated condition of jaundice. They sometimes completely disappear by involution, and are never serious.

As so often happens, a second case of this rare disease entered the hospital within a few days of the first one.

In discussion *Dr. Welch* remarked that he had several years ago examined the sections taken from Dr. Politzer's well-known case of this affection, and he believed it was claimed at the time that there was a difference between these tumors and those commonly occurring in the eyelids. In the latter case the yellow growth is probably the result of a true fatty degeneration, whereas in such cases as those under consideration the path-

ological process is that of a new growth in the skin, composed of giant cells and xantheloma cells, the latter being something like the cells found in sebaceous glands.

Dr. Sabin: "A Case of Arsenical Neuritis."

The patient was a young woman who had swallowed about a dram of "Rough on Rats," and had recovered from the acute symptoms of the poisoning under appropriate treatment at the hospital. She recovered sufficiently to return home in a few days, and continued about her household duties for a time, but soon developed a sense of numbness in the feet that was followed by partial paralysis. She returned to the hospital with double foot-drop and wrist-drop, weakened electrical reaction, delayed sensation over the legs and arms, and a thickening of the skin over the soles of the feet. There was also a hyperesthesia of the soles of the feet, so that the slightest touch produced pain and muscle spasm.

Dr. Osler commented on the rarity of neuritis after the taking of arsenic, and said that it practically never occurred when given even in considerable doses over long periods of time, but in the cases met with it occurred usually as the result of one large dose. He believed that these cases must be the results of idiosyncrasy to the drug. But one other case has been seen at the hospital, and that patient took an ounce and one-quarter of the drug.

Dr. Hurd reported a case of arsenical neuritis that had followed a single dose of arsenic taken with suicidal intent by an insane patient in whom the neuritis was very severe.

Dr. Hamburger: "A Case of Pemphigus Vegetans."

This is a very rare and distressing cutaneous affection. The patient was a white man, fifty-two years of age, a farmer by occupation, and of good family and personal history. The mucous membrane of the lips, tongue and fauces was eroded and resembled very much the appearance of numerous mucous patches. All over the skin of the body were condylomatous masses, with a few vesicles or bullae. The latter represent the earlier stages of the affection, which is followed by rupture and excoriation, with the piling up of scabs. In some areas, as in the groins and axillae and about the buttocks, the condylomatous masses were of enormous size.

Dr. Osler called attention to the characteristic appearance of the mouth symptoms, and said it is reported that a Vienna physician diagnosed a case of the disease on these appearances alone and prior to the onset of the skin lesions.

Dr. Cole: "The Frequency of Typhoid Bacilli in the Blood."

The paper was a report on a careful study of the blood in eleven cases of typhoid taken in the early stages and without special selection. The technique was most carefully arranged, and every precaution taken to avoid contamination. In six of the cases the typhoid bacillus was recovered from the blood at a period earlier than it was possible to obtain the Widal reaction. In one case it was possible by this means to make the diagnosis within twenty-four hours when there was absolutely no other symptom save the temperature to base the diagnosis of typhoid upon. The work would seem to give hope for the belief that such examinations, carefully and scientifically conducted, will make it possible to diagnose typhoid, in many cases at least, in its earliest stage. H. O. R.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD DECEMBER 21, 1900.

THE Society was called to order by the president, Dr. W. J. Todd, at the Maryland General Hospital on invitation of the staff of that institution.

Dr. Randolph Winslow: "A Case of Actinomycosis of the Foot."

I am extremely grateful to the staff of this hospital, especially Professors Earle and Blake, for their very courteous invitation to exhibit this case here this evening.

The patient was sent to the University of Maryland Hospital on December 8 of the present year. He cut his foot about three years ago, and the wound has never thoroughly healed. At times it would close with a scab, and after awhile break down again. He got on fairly well, however, until last January, when a sore appeared in the site of the original incision, and it has not healed. About that time he was engaged in nursing certain animals that were sick. There were two horses and one cow, all of which died within a period of three weeks. On the adjoining farm there were also three sick horses, and he went to see them, administered medicines, and they likewise died. He did not seem to be a very good doctor. About this time he noticed increasing trouble with his foot. He had always been accustomed to going barefooted. In July he came to this hospital, and was advised to have the limb amputated, but he refused, and went home.

He has, then, a chronic condition, according to his account, beginning nearly a year ago. He was attending sick animals at the time, but whether there is any connection between his condition and that of the animals I do not know. There is no marked pain in his foot unless you press upon it or he stands upon it. You see a peculiar condition of swelling all around the circumference of the foot, with a marked induration like a big sac of lymph-edema, and when I first saw him there was a certain amount of lymph exuding from sinuses on the foot. He can move the foot to some extent, but motion is painful. There are numerous sinuses, and from these exude a thin pus containing small granules of yellow color and about pinhead size. A probe introduced into the sinuses shows them to be very superficial. Examination of the pus shows it to contain the organism of actinomycosis.

In this country, at least, actinomycosis affecting the foot has not been observed more than three or four times. According to Dr. Gilchrist this is the fourth case, I believe, found in this country. Whether the foot is like the condition of Madura foot of India, or whether the Madura foot is an actinomycosis, I am not able to say.

Dr. Gilchrist: I have examined this man's foot very carefully, and the pus and granules show beautiful examples of the ray fungus. I think probably the man has had the disease from the time of his accident, and from his history it is questionable whether the animals referred to did not get the disease from him.

As to whether this is a Madura foot or not is doubtful. It shows certain resemblances to the pictures of such things, and it may be of some interest in tending to show the relationship between Madura foot and actinomycosis.

Dr. W. E. Moseley: "Exhibition of Cases and Specimens."

Case 1. Cesarean Section.—Cases of Cesarean section are infrequent enough to be of interest, and I bring this patient before you to show that she has not suffered from the operation. She is twenty-four years of age, has always been perfectly well, and there is no history of rachitis or any other diseased condition that would modify the shape of the pelvis. On August 3, 1896, she was delivered of a child by craniotomy on the living infant. Two years afterwards she was delivered in our lying-in hospital by Dr. Todd, by a high-forceps operation, of a seven-pound child, which is now alive and well. She came in again early in November, and measurements at that time showed a pelvis contracted antero-posteriorly. She went into labor at 1 A. M., December 3, and although the pains were severe and regular, no progress was made. At 8 P. M. an attempt was made to deliver with forceps, but it failed. The head was perfectly movable above the brim, but would not engage. About 10 o'clock I was sent for, and finding that the head was not at all compressible, I concluded that Cesarean section was the best thing for her. The contraction of the pelvis was antero-posterior, and a symphysiotomy would enlarge the pelvic outlet to no great extent. The operation was done in the usual way; the child was delivered in an asphyxiated condition, but prompt measures being made to restore it, it cried out, and afterwards seemed to be in fairly good condition until the next morning, when it died very suddenly. The autopsy on the child showed the following: Weight, eight and one-half pounds, and well formed; the diameters of the head were large, and it would have been impossible to have brought such a head down through this pelvis; the left lung had three lobes, the upper one firmly adherent to the costal tissues.

The mother has made an uneventful convalescence. She lost comparatively little blood at the operation—I should think not more than a woman would lose at normal labor.

Case 2. Fibroid of the Ovary (Exhibiting specimen).—This specimen is somewhat interesting. The woman had an attack of what was pronounced peritonitis three years ago, and has been in rather poor health since, but without any marked pelvic symptoms. Examination showed a hard body to the left of the uterus intimately connected with it and slightly movable. It was sensitive on pressure, but without that peculiar sensitiveness usually met with on compressing the ovary. The probable diagnosis of fibroid ovary was made, and the operation proved its correctness. The only complaint she made was that of sterility, and she wanted this tumor removed in order to increase her chances of becoming pregnant. On opening the abdomen the left tube and the fibroid ovary were matted together, and the right tube and ovary were buried in a dense mass of adhesions. As you see in this specimen, the fimbriated extremity of the left tube was open. On the right side the ovary was somewhat cystic, and the fimbriated end of the tube was closed and strongly adherent to the broad ligament and lower portion of the uterus. I amputated the end of the tube, and, uniting the end of the stump to the serous membrane to keep the tube open, I did a ventral fixation to hold the uterus up in place. The patient is now sitting up and almost entirely well.

Dr. David Street: "Report on the Treatment of Typhoid in the Maryland General Hospital for the Past Four Months."

Dr. Street reviewed the histories of thirty-three cases of typhoid treated during the past few months at this hospital, giving the individual histories of several interesting cases. Thirty of these cases were treated by the Brand method and three by the Woodbridge.

Dr. Osler: I think Dr. Street is to be congratulated on the good results obtained in his typhoid-fever cases. He bears the brunt of the mortality of the physicians practicing in the city, as we hospital physicians frequently have to do. A friend of mine said to me: "I have practiced medicine for fourteen years, and have never lost a case of typhoid." I said: "Of course not; you attend a case of typhoid until it becomes serious, and then send it to my ward in the hospital to die." That is what the physicians do, and I suppose that is what the hospitals are for. The hospital physicians have to take this with the usual equanimity with which they receive other gifts. We do have cases come in, however, that are just on the road to convalescence, so I think the general mortality of a hospital ought to include everything, whether they have been in twenty-four hours or longer—in fact, anything that has gotten into bed in the house.

I am afraid old Dr. Brand would rise in his grave if he thought we regarded these cases as having been treated by his method. His treatment was the tub—the tub only and always—and it was not hydrotherapy. He protested most vigorously against any other method than the tub being called by his name. The cold pack is sometimes more efficacious and often more unpleasant than the full tub.

One other point of great importance I want to refer to. In the past few years we have been learning a remarkable lesson from the surgeons with reference to perforations. The increasing percentage of recoveries in cases with perforation is one of the most delightful things we have to consider now. The percentage of recoveries in such operable cases has steadily risen from 8 to 10 per cent. to nearly 50 per cent. In fifteen cases operated upon by Finney, Cushing and Mitchell 40 per cent. have recovered. Such results, however, depend entirely upon the young men acting as house physicians and surgeons. They are in the position to exert that watchfulness and care necessary to detect the symptoms of perforation at once. In the last three cases operated upon from my ward the early diagnosis was made by Drs. Futcher and McCrae. The house physicians should not be handicapped by having to call upon the attending surgeon, but should have the co-operation of the house surgeons. It often means death in these cases to wait even a few hours.

Dr. Craighill: I thought it might be of interest to refer briefly to the number of cases of typhoid treated at the University of Maryland during this autumn, and so refreshed my memory today by looking over the statistics. We have had forty cases, with five deaths—a mortality of 12½ per cent. I agree with what Dr. Osler has said about cold sponging. The patients who have been sponged first, and have had to be tubbed later, almost invariably said they would rather be tubbed. Our nurses, too, say that the patients do not suffer as much when put into the tub as when cold-sponged.

Dr. O'Donovan: I would like to add a few words to supplement Dr. Street's report with special reference to the number of children treated in the hospital. There were five such cases in his report. One would perhaps gather from the text-books that typhoid is a mild disease among children, and might be surprised to find it coming on in a severe form. We do find that it runs a more rapid course, and we do not expect the complications in children that we look for during the third week in adults, probably because the child's diet can be better regulated and the child's intestines are in better shape to withstand the disease. There were no deaths among our five cases, and no serious symptoms, except that they all had high fever, and four of them required frequent cold sponges and baths. They were not plunged into a cold bath, but the temperature was gradually reduced, while keeping up friction. These cases, and others that I have seen, make me regard typhoid in children as a disease that in its early stage is often marked by very high temperature.

Dr. John D. Blake: "Exhibition of Cases."

A Dermoid Cyst.—The first thing I want to show is a specimen of some interest. A dermoid cyst was removed from this woman, and when we opened the abdomen and found it filled with blood we thought there was probably an extrauterine pregnancy. After a thorough cleansing, however, we found and removed this cyst. It contained three well-formed and perfect teeth, which look like two bicuspids and a molar.

Tuberculosis of the Knee-Joint.—This young man came to me in a very dilapidated condition. The joint was completely disorganized, the epiphysis of the femur was very much involved, and on cutting through the femur above the joint I found that he had a tuberculous osteo-myelitis. The pus contained masses of the tubercle bacillus. An amputation was done at the junction of the middle and upper thirds of the femur, and with a Volkmann spoon the medullary canal was scraped out as far as the great trochanter. The canal was then washed out with a 1-10,000 bichloride solution and packed with iodoform emulsion. The young man has made a very excellent recovery, has no temperature, is gaining flesh slowly, and I have every reason to hope for a good result.

An Operation for Empyema.—This man had an attack of pleuro-pneumonia, and entered the hospital on the twenty-third day of his illness with a distinct dullness over the entire right lung. He had a high temperature, and coming under Dr. Street's care his condition was diagnosed as one of empyema. We removed a section of the rib, and evacuated two quarts or more of pus.

In this connection I wish to say that a week or so prior to the time of this operation I had operated for the same thing on a child only thirteen months old, and evacuated a large quantity of pus. It is not our habit to wash out the cavity at all, but simply to make a resection sufficiently large to furnish good drainage. This permits the air to enter freely, and supports the lung, which has been for a greater or less time compressed. In aspiration, or even intercostal incision, you cannot provide for sufficient entrance of air to compensate for the forcing out of fluid contents, and may cause serious symptoms.

AN OPERATING TABLE FOR OFFICE WORK.

By Hugh H. Young, M.D.,
Baltimore.

Head of Department of Genito-Urinary Surgery, Johns Hopkins Hospital Dispensary.

For surgical, genito-urinary and gynecological office practice some form of operating table is necessary, and while a number of ingenious designs are on the market, none seem to supply several of the important requirements for such work.

The costly iron and glass operating tables, of which there are many

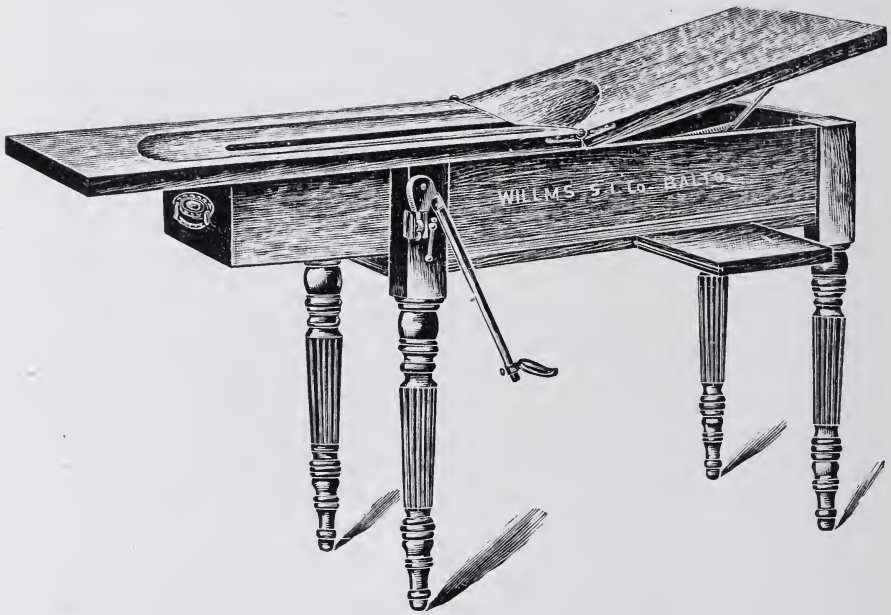


Fig. I.—Full length position, showing central slot prepared to catch urethral and bladder irrigation, etc.

beautiful patterns, are at once too formidable, too expensive and unnecessarily elaborate for office work. The principal shortcomings of those intended merely for office work are:

There is no suitable provision for catching bladder, urethral and vaginal irrigations, and lavage (probably the most common forms of surgical office work for which a table is necessary).

Second, the table does not supply suitable positions for endoscopic and cystoscopic examinations in the male.

Three years ago we attempted to design a table suitable merely for

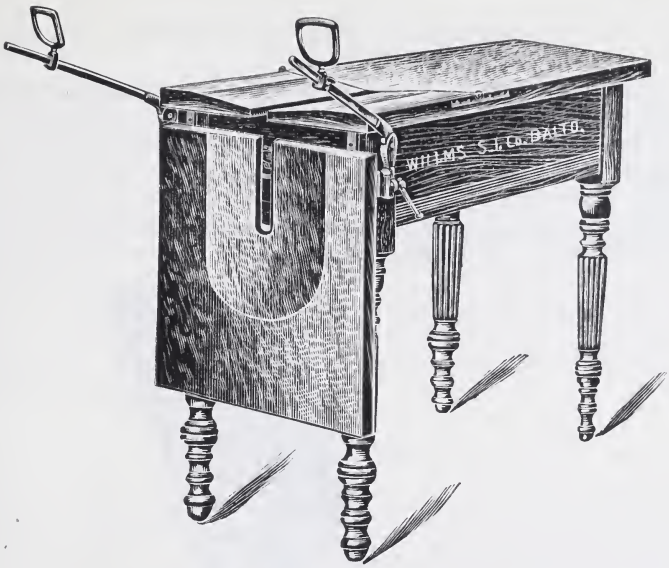


Fig. II.—Drawer pushed back; foot rests in position for gynecological cases.

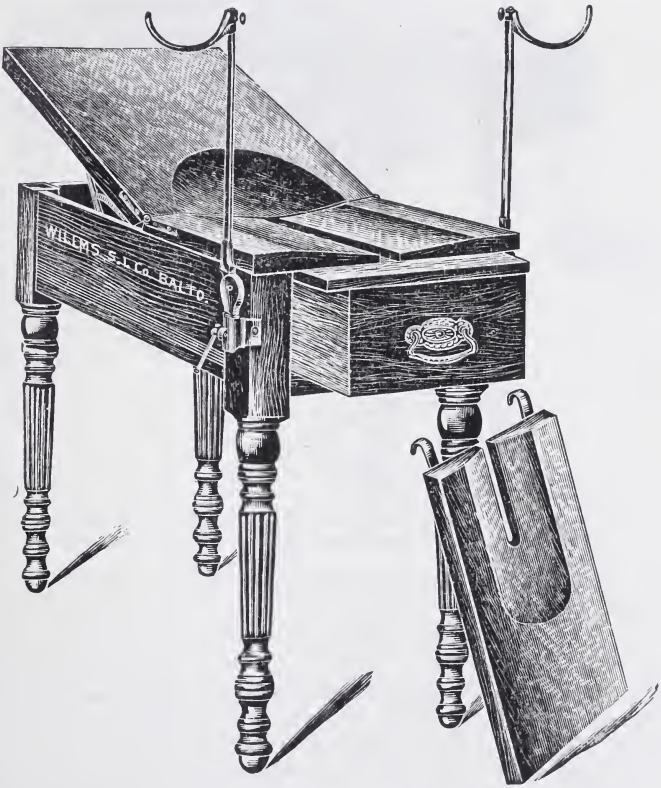


Fig. III.—Showing crutches for exaggerated dorsal position. Leaf removed, drawer pulled out for vaginal lavage. Slide for instruments on top of drawer.

office work, harmonizing as much as possible with ordinary office furniture, and supplying the aforesaid requisites which are usually absent.

The accompanying plates are so explicit in themselves that a detailed description is not necessary, and we need comment only on a few particulars.

Probably the most important feature is the sliding drawer, which serves not only to hold up the extension leaf for the full-length position, but also

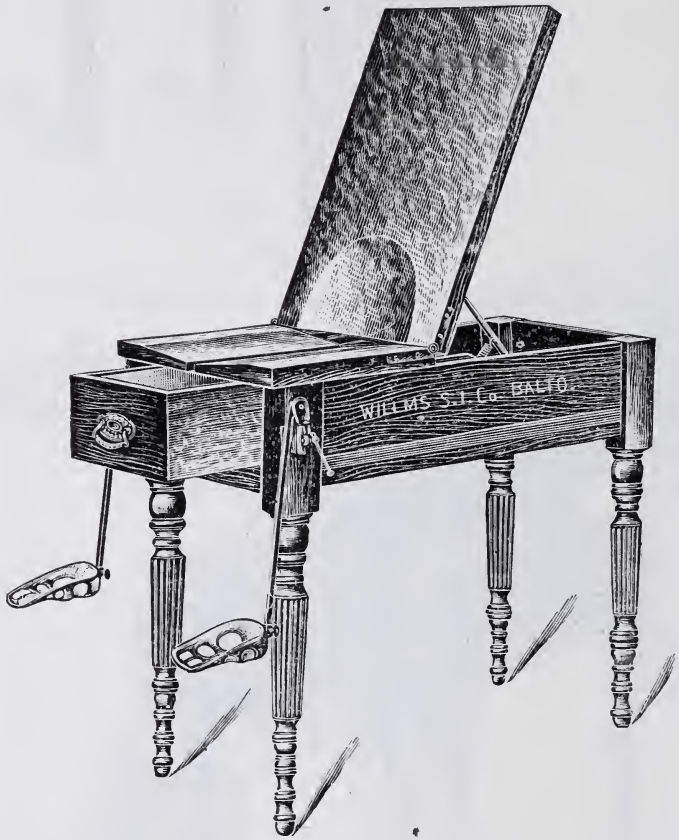


FIG. IV.—Position suitable for urethroscopic examinations. Drawer pulled out for preliminary lavage. For cystoscopic work the head piece is lowered.

carries a long basin to catch fluids draining through the central slot in the top of the table.

This not only effectually provides for urethral and bladder irrigations when used in the full-length position, but also for vaginal douches when the leaf is removed, and the patient placed in the dorsal gynecological position, or the male endoscopic or cystoscopic positions.

For these latter purposes the drawer is first drawn out to catch the preliminary lavage, and is then pushed back out of the way.

The table as above described was at first equipped with a set of foot-

rests which were found on the market, but as these had no suitable provision for the sitting posture most suitable for endoscopic examinations, and the somewhat similar position desirable for cystoscopic work, we have had constructed a form which not only provides the usual stirrups for gynecological work, but may also be dropped down and supplied with receptacles for the feet in endoscopic and cystoscopic cases, or may be elevated and have crutches attached for the lithotomy or exaggerated dorsal position.

There are, of course, many features common to other tables already on the market, but the table here described as now made by the Willms Surgical Instrument Co. of Baltimore has proved so satisfactory in many hands that its publication seemed justifiable.

Book Reviews.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By H. Oppenheim, Professor at the University of Berlin. Translated by Edward E. Mayer, M.D., Pittsburg, from the second revised and enlarged German edition. Philadelphia and London: J. B. Lippincott Company.

The two most important books on diseases of the nervous system that have appeared in recent years are Gowers' classical and well-known work and Oppenheim's text-book, which Mayer has made accessible to the English-reading public by his careful translation. The translation is both accurate and readable. The illustrations are well and faithfully reproduced. The book may be called a personal one, for it reflects the author's teachings and beliefs, but it is in no sense narrow. Of all the text-books on nervous diseases it is the best one to be placed in the hands of the medical student, for it not only emphasizes the absolute necessity of the careful and methodical examination of cases, but in Part I, in which the author describes the "methods of examination," "general symptomatology" and "objective examination," the student is told how the examination of a case should be made. Oppenheim's thorough knowledge of the histology and pathology of the nervous system has given him a just appreciation of the relative value of these subjects, and the extent to which a discussion of them should be carried in a text-book.

The book is of great value not only to the specialist, but to the general practitioner. The author's references to the treatment of cases of nervous disease are both practical and rational. S. P.

ENCYCLOPEDIA MEDICA. Under the general editorship of Chalmers Watson, M.B., M.R.C.P.E. Vol. III—Diphtheria to Food; Vol. IV—Foot to Hernia. New York and London: Longmans, Green & Co. 1900.

We have previously noticed the appearance of this very good series. An examination of the second and third volumes tends to increase one's respect for the work. The articles are not signed, but the list of authors in the front of each volume shows that the subjects have been assigned to very competent hands.

Volumes III and IV run from Diphtheria to Hernia.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, MARCH, 1901.

THE MEDICAL AND CHIRURGICAL FACULTY.

IN opening the semi-annual meeting at Towson Dr. Samuel Theobald told the story of the growth of the Medical and Chirurgical Faculty of Maryland during the last eleven years, when it has about tripled in membership and has multiplied its out-of-town membership by six. In the same period the library of the Faculty has doubled, rising from 6078 volumes in 1888 to more than 12,000 volumes, excluding duplicates, in 1900.

There can be no doubt about the healthy condition of the State society at the present time, and perhaps the most hopeful sign for its future is its lively spirit of expansion. The growth of the library received its first decided stimulus from the Frick fund. Then the Book and Journal Club was organized among the members of the society. All the money derived from dues by this club is spent upon books and journals, and this winter an interesting series of lectures upon subjects connected with the history of medicine has been provided. The library has recently become the exchange headquarters for the American Medical Library Association, and certain advantages grow out of that. Now it is proposed to raise an endowment fund for the library. The chairman of the executive committee has started this fund with a gift of $1000. His previous unchronicled gifts have cost a good deal more money, but this one should yield greater visible profits. Among the younger members of the Faculty a movement has been started to clear off in the next two months the small debt which the Faculty yet owes.

We are also informed that the campaign for local organization which was begun during the presidency of Dr. Chas. M. Ellis will be renewed this spring, and this time with a prospect of greater success. The excellent results of the work of 1899 have been previously alluded to in these pages.

The organization of strong local societies in the several counties must come before the Faculty can become thoroughly representative of the medical profession of this State. The need of professional organization is everywhere becoming more apparent, and in some parts of this country it is felt most keenly. It would be a great shame if we should wait until circumstances drive the medical profession of Maryland into organization for self-defense. That has been too often the history of professional organization, and while we have at present no reason to anticipate violence from our enemies in Maryland, we should have the increased respect of both friends and enemies if we could show a united front.

We have had some experiences at Annapolis which about measured the political influence of the medical profession, and we have so far had no reason to congratulate ourselves. In other States it has sometimes happened that public questions of the highest importance have been referred to the medical societies, and legislation has waited upon their deliberations. No such tribute has been paid to the physicians of this State. The Medical and Chirurgical Faculty has to some extent influenced the development of Maryland, but it has not made upon the public mind the full impress of its honorable history and its scientific strength. The more sordid considerations of private interest might safely be left in the background if the rightful influence of the Faculty were acknowledged in those matters wherein the public must be guided by medical opinion. Where there is no unison of medical authority the public may be, and often is, misguided by mere medical prattle.

The need of organization for the humbler professional purposes will be not the least effective argument to carry into the counties.

MEAT INSPECTION IN MARYLAND.

The recent stringent inspections of animals and meats, especially at Claremont, have aroused a lively popular interest and have thrown a certain class of cattle dealers and butchers into a sort of panic. Considerable pecuniary losses fell first upon the butchers, who, in self-defense, refused to buy animals except upon the dealers' guarantee that the meat would pass inspection. This doubled the losses of the dealers, and they began at once to importune the State and city boards of health for relief. They say that the condemnations have so demoralized the market that the local dealers cannot bid against the buyers from other States, so that poor cattle are bought at very low prices for shipment to other markets. Curiously enough, they say that most of these inferior cattle go to the States north of us, where we supposed that inspection is more rigid than here. The low prices are injurious to the Maryland farmer, who will presently find that he cannot offer his discarded cows and worn-out oxen for sale in Baltimore without great risk of their confiscation.

According to the Baltimore dealers, the present strict inspection will give the Western beef command of Maryland markets, and the great Western firms will have entire control of the thin cows, bulls and "still" cows. "Still" cows are the animals whose milk is a by-product in the manufacture of beer and spirits. Of course, the "still" cow goes the pace, and pays the penalty of a fast life. When the tubercle bacillus gets complete possession of the "still" cow, or when her slop diet all goes through her kidneys instead of her udder, she is "still" beef, and usually goes in a metallic casket to the boys in the Philippines. The dealers do not believe that the soldier boys should have a monopoly of the "still" cow's daintiness. They say that she makes excellent sausage and pudding, and is as safe and wholesome food as any other mortal remains.

The dealers also assert that public health would be far better served if the State and city inspectors were to confine their attention exclusively to the pork butchers, whose business, they say, is bad enough to occupy all the time of an increased force.

The dealers who have furnished so much useful information are those who buy inferior stock and sell for the most part to the sausage and pudding butchers. If it should be made too difficult for this particular industry to succeed at Claremont, it can still be pursued profitably by removal to the private slaughter-houses, of which there are more than a hundred in the city. There are but two city inspectors of meat, and the State Board of Health has but one inspector of food and drink.

A DOCTOR'S WIDOW ON THE WARPATH.

The State of Kansas has been agitated and other States highly entertained for a month past by the extraordinary campaign of a woman against the unlawful liquor traffic. The prohibition experiment has had a long trial in Kansas, but the large towns are none the less infested with liquor saloons. A middle-aged lady, having satisfied herself by appeal to the constituted authorities that the "joints" would not be closed by legal process, has undertaken with her own hands and a hatchet to smash "joint" after "joint" till the business is completely disarticulated. Always before proceeding with her *fatti maschii* she tries the force of argument and entreaty upon the saloon man.

Her own career of joint-smashing was interrupted by a brief imprisonment in Topeka, but her style of warfare has grown into popular favor so far that there are now several bands of joint-smashers in the State. One at least of these bands calls itself an army, "The Army for the Enforcement of Law," and this organization has given evidence of its regard for law by offering the assistance of 300 armed men to prevent the lynching of a prisonor in the same jail with Mrs. Nation. There has, of course, been some shooting, and one person, a saloon-keeper's wife, has been killed, but the smashers are for the most part in sober, dreadful earnest.

Whether this appeal of the people to force is right or wrong is not for us to say. It can be fully justified by success.

The mental characteristics of the leader of this movement are interesting. She claims Divine guidance. She got her first husband in the ordinary way. He was a doctor, and died of "hell broth." Then she prayed for a new husband, and got a reformed editor. Eight years ago she smashed all the "joints" in Medicine Lodge, and the results were permanent. Up to this time she has not been impelled to smash any animate thing. The blackened eye of a dissolute woman in one of the "joints" filled her with pity, and she was more deeply touched to learn that the injury had been inflicted by her own nephew, a saloon man. But she engaged this young man as her advance agent. She seems a rather easy mark for practical jokers, and is not sensitive to ridicule. Court proceedings in her case have been enlivened by her repeatedly arising and addressing the judge as "Your Dishonor." In cities where the liquor traffic is legalized she has been wise enough to employ her tongue and withhold her hatchet. Although she has spoken a great deal in public, the newspapers have not found two consecutive sentences worth reporting.

The mental obliquity of this petticoated Quixote seems to be that of the typical American crank, but the success of her enterprise may gain for her a diagnosis of some dignified sort of lunacy.

Medical Items.

Smallpox is epidemic in Glasgow, more than 100 cases being in hospital.

Dr. Levi Royer died at New Windsor on February 11, aged sixty-two years.

It is reported that there are six cases of smallpox in the infirmary at the University of Virginia.

Dr. Max von Pettenkoffer shot himself to death on February 11. He was eighty-three years old.

An endowment fund for the library of the Medical and Chirurgical Faculty is started by Dr. Osler with $1000.

Among new appointments to the Pension Board for this city are Dr. A. Trego Shertzer, Dr. Henry S. Jarrett, and Dr. C. T. Scudder.

It is said that the cost of drunkenness to the city government in Paris amounts to 2,000,000 francs per annum. The hospital statistics furnish the basis of this calculation.

Dr. James T. Perkins died at his home in Springfield, Prince George county, on February 8. Dr. Perkins was forty-seven years of age and a graduate of the University of Maryland.

Dr. Michael R. Pigott, passed assistant surgeon in the United States navy, died suddenly at the Naval Academy in Annapolis on January 31. Dr. Pigott was a graduate of the University of Virginia, and was thirty-five years old.

As a result of the recent yellow fever experiments a campaign of extermination has been undertaken in Cuba. Forty inspectors are to report all the breeding places of mosquitoes, and petroleum will be poured once a month upon all such pools.

An interesting phase of the close attention of the State and city boards of health to the animals and meat at Calverton is the development of evidence that most of the "bone-racks" go as canned meat at first-rate prices to Uncle Sam's soldiers.

Parties of medical students in Chicago are taken three times a week to the Isolation Hospital to study smallpox. This is right, and might be done in other cities not only without present danger, but to the material reduction of danger from smallpox in future.

According to the *Boston Medical and Surgical Journal* the coroner's jury expressed their verdict upon the death of Murray Hall, the Tammany politician, in the following language: "Murray H. Hall came to his death from natural causes. He was a lady."

Dr. Thomas F. Murdoch died on February 18 at his home in Baltimore, aged seventy-two years. Dr. Murdoch graduated at Princeton in 1847, and at the University of Maryland in 1850. After fifteen months' study in Paris and Dublin he began practice in Baltimore.

The Medical Society of the College of Physicians and Surgeons held a memorial meeting in honor of the late Dr. George H. Rohé on February 6. Addresses were made by Professor Simon and Drs. W. J. Todd, Thos. Opie, Chas. F. Bevan, Aaron Friedenwald, and John W. Chambers.

Dr. Samuel C. Busey died at his home in Washington on February 12. Dr. Busey was born in Montgomery county, Maryland, in 1829, and graduated in medicine at the University of Pennsylvania in 1848. His professional life was passed in Washington, where he rose to a position of great distinction.

Several State legislatures are considering legislation to regulate the practice of medicine. The Christian Scientists are very much in evidence in opposition to every attempt to bring them under any sort of restraint or accountability. They have not offered any reason why they should not conform to the simple requirements which ordinary men and women easily meet.

The Hall of Fame will need an annunciator with a loud voice and very distinct articulation. The American surgeon who did the earliest work on spinal cocainization lives in New York, but the *New York Sun* attributes this great distinction to one Covering, whoever that may be. It is not surprising that Tuffier should appear in the same article as Tupper, but one would think that Leonard Corning's name would be recognized at once in the *Sun* office.

Bubonic plague has appeared at Cape Town, and may embarrass the military operations in South Africa.

Dr. E. C. Frierson of Anderson, S. C., shot himself accidentally on February 8, and died instantly. Dr. Frierson graduated at the College of Physicians and Surgeons, Baltimore, in 1880.

Dr. C. Z. Wingard of Funkstown, Carroll county, was struck by a train and seriously injured on February 13. He was taken into Hagerstown, where he was attended by Dr. J. McP. Scott.

The smallpox now epidemic in Glasgow is of severe type, though the deaths among some 400 cases have numbered only about a dozen. It is widespread, having been detected in every quarter of the city.

The report of the committee of the medical board of Bellevue Hospital informs us that the daily per capita cost of ward patients in nine leading hospitals is as follows: St. Luke's Hospital, $1.62; Presbyterian Hospital, $2.44; Roosevelt Hospital, $2.19½; Mt. Sinai Hospital, $1.38⅙; New York Hospital, $2.08; Pennsylvania Hospital, $1.17; Massachusetts General Hospital, $1.96; Boston City Hospital, $1.77; Bellevue Hospital, $1.21.

State Forestry Commissioner Rothrock of Pennsylvania has a plan for the open-air treatment of tuberculous patients by the establishments of camps in the various forest reservations. The first camp is at an elevation of 2000 feet in Clinton county. Large tents are to be erected upon permanent foundations. They are to be provided with raised covered wooden platforms, so that patients may take their exercise in spite of bad weather. Shelter only is to be provided, the patients providing everything else for themselves.

The California State senate has passed a resolution requesting President McKinley to remove Dr. Kinyoun of the United States Marine Hospital Service on the ground of unjust quarantine measures against "alleged bubonic plague in San Francisco." The vote was 26 to 8. The President has sent a commission consisting of Drs. Flexner, Barker and Novy to investigate the "alleged bubonic plague." Cases Nos. 23, 24 and 25 died in San Francisco in January of plague. The diagnosis in each case was as fully confirmed as the diagnosis of plague has ever been or ever can be, and the proof must have convinced every mind less dense than that of a California governor.

The defeat of Gov. Charles S. Thomas of Colorado for a seat in the United States Senate was due to the influence of the medical profession, who determined to punish him for an insulting veto message. The governor was the supreme head of a particularly strong machine, which seemed strong enough to give him whatever he wanted. The doctors all over the State went into the primaries and into the local conventions to work for democratic and fusion candidates who would pledge themselves to oppose Governor Thomas' ambition. The governor was perfectly sure of his nomination until the legislature assembled, when he found that he lacked four votes, and the machine could not provide him a majority. Good, good for the Colorado doctors!

The Association of Medical Officers of the Army and Navy of the Confederacy will convene in Memphis, Tenn., May 28-30, 1901, during the meeting of the Confederate Reunion. All surgeons, assistant surgeons, acting assistant surgeons or contract physicians and hospital stewards in the army and navy of the Confederates States, and all regular physicians who served honorably in any capacity in the Confederates States army and navy, and all regular physicians who are sons of Confederate veterans, are eligible to membership. Any further information desired will be most cheerfully furnished by Drs. Malone or Elcan of Memphis, or Dr. Deering J. Roberts, secretary of the association, of Nashville, Tenn. The doctors of Memphis will see that their end of the line is fully kept up, and with a uniform railroad rate of one cent per mile over all Southern and Southeastern roads, the attendance should surely be a feature of the occasion.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 4 BALTIMORE, APRIL, 1901 Whole No. 995

EPIDERMOLYSIS BULLOSA HEREDITARIA, WITH REPORT OF THE FIRST CASE OF THE DISEASE IN THE NEGRO RACE.

By Henry Lee Smith, M.D.,
Baltimore.

NOTES ON THE BLOOD AND VESICLE CELLS.

By Thomas R. Brown, M.D.,
Baltimore.

Goldscheider, in 1882, reported a case of a soldier, aged twenty-two years, who had a peculiar form of bullous eruption. The bullae appeared on parts of the body exposed to irritation, notably around the waist from belt friction, and on his feet from shoe pressure. He was incapacitated for duty, and received, in consequence, his discharge.

The family history showed that in four generations there were seven additional cases. They were the father, paternal grandmother and granduncle, a brother and sister of the patient, and two nieces, his sister's children.

The bullae contained clear-looking fluid, and under the microscope there was seen an increase in the cells of the prickle layer. The epidermal cells forming the floor of the bleb appeared drawn out vertically from the surface, and contained elongated nuclei. Goldscheider regarded the condition as a hereditary predisposition to the loosening of the prickle layer, followed by an inflammatory exudation; hence he termed the disease "*Acantholysis bullosa*" (acantholysis, acantha, *prickle;* lysis, *loosening*). Later he was supported in his views by Köbner and Joseph, but opposed by Blumer in 1892, who believed the exudation to be primary and the bleb formation the result.

Payne, in 1882, saw a boy, three and one-half years old, who, in addition to the blebs, which first appeared when patient was fourteen days old, had marked degeneration of the nails. They were irregular and brittle, and some so thickened as to suggest the claws of an animal. The family history was negative.

Legg, in 1883, recorded two cases, a brother and sister. The boy was born without a thumb-nail, a blister being noted instead. Bullae appeared from time to time over the hands and feet and on the extensor surfaces of the extremities and over the joints. The girl likewise was born with a blister near her thumb-nail, and was troubled at intervals with bleb formation upon parts of the body exposed to friction. The mother of the patients stated that her nephew (sister's son) had the same breaking out. She knew of no other cases in the family. This history, then, shows three affected in the same generation.

Valentin published a case in 1885. He found the lesion present in eleven members of a family in four generations, nine of whom were males and two females. The special tendency of the male sex to the disease he compared to hemophilia and color-blindness.

In his most pronounced case—male, sixteen years of age, the bullae appeared on the buttocks, after sitting on hard seats, and on the upper part of legs from garter pressure, and on the shoulders from friction of his suspenders. There was hyperidrosis. The vesicles were more common in summer than in winter. No scars resulted. Several members of the family were subject to excessive sweating of the feet. Bullae arose most readily when parts of the skin were wet. Valentin thought the process to be of inflammatory origin, and proposed the name "*Hereditary dermatitis bullosa.*"

Köbner, in 1886, followed with a report of four cases in two generations, a mother and her three sons. It had been observed by each patient that slight irritation gave rise to blisters. The condition had begun in all shortly after birth, and was most pronounced during summer. He was impressed with the hereditary nature of the disease, and called it "*Epidermolysis bullosa hereditaria.*"

Bonaiuti's case (1890) was a man, twenty-two years old. Patient had suffered as far back as he could remember with the eruption. In sixty-three members of the family, extending over five generations, thirty-one had been affected in the same way. Sixteen were males and fifteen females. This hereditary history is the most remarkable of all the cases on record.

Bonaiuti could find no inflammatory sign connected with the evolution of the bullae, and therefore preferred Köbner's title, "*Epidermolysis bullosa hereditaria,*" to that of Valentin, "*Dermatitis bullosa.*"

Carl Blumer, in 1892, described a case in a girl, aged seven years, who had since infancy been subject to the disorder. Bullae appeared at times on the fingers after holding a slate pencil or knitting needle. The father of the patient suffered from blisters in his mouth caused by prolonged chewing of solid food, necessitated by the absence of teeth. His skin was especially sensitive in summer. Bullae could be readily produced by friction, whereas the skin showed no special response to blows, cold or chemical irritation, but epidermolysis was easily produced under influence of the warm

bath. In the course of four generations the affection occurred in eleven out of twenty-four males and in five out of twelve females.

Besnier, in 1890, published a case. The skin of his patient was ichthyotic. He considered the associated bullae as a form of ichthyosis, and named the disease "*Ichtyose à poussées bulleuses.*"

In this country comparatively few cases have been recorded. Elliott's work has been the most important. In 1892 he saw his first case, a male, aged thirty years, whose father had developed a bullous eruption during his service as a soldier in the Civil War. The patient was born several years after the cutaneous disorder had existed in the parent. The eruption was first noticed in the former when he was five years of age.

His second case, male, aged twenty-one years, was seen in the following year. The disease had existed since the earliest recollection of the patient. The lesions were most numerous in summer. Hyperidrosis was marked. The family history was negative. Elliott excised a bulla which had existed not longer than one hour. Microscopical examination showed that the vesicle was formed in the prickle layer, and its contents were granular and intermixed with shreds of fibrine; no leucocytes, however, were noted. An interesting point brought out by Elliott was that the layer of the epidermis forming the inner boundary of the bulla showed marked degenerative changes. The epithelial cells some distance from this zone showed vertical elongation and distorted nuclei. In the papillae there was seen vascular dilatation, and a general edematous appearance, with some cellular infiltration, around the vessels and the sweat coils.

The finding of such extensive perivascular inflammatory infiltration in such a recent lesion led Elliott to regard the process as primarily an inflammatory one, and the bullous formation the result of the sudden and excessive exudation, the individual having an acquired or inherited exaggerated irritability of the cutaneous system. This view he withdrew with the publication of the following case:

His third case, recorded in 1896, was that of a young man who had been a sufferer from the disease since early childhood, and also appears to have acquired the disease, as there was nothing in the family history to suggest a hereditary predisposition. The patient was nervous, moody and dyspeptic, and, apart from the eruption, complained of excessive sweating and cold hands and feet. The bullae were more numerous during the summer months, and appeared chiefly upon parts of the body exposed to the greatest friction. Sections of the bleb showed it to be situated in the prickle layer.

The same cellular and nuclear changes in the basic layer, as pointed out in his previous case, were present. The stratum corneum and stratum granulosum remained normal. He observed, however, that sections of skin taken from objectively normal areas gave, without exception, degeneration of the basic layer varying in degree only from the changes seen after bleb formation had taken

place. Control sections from normal skin of healthy persons were always negative.

In view of the histo-pathological features noted in the apparently normal skin of his patient, Elliott now regards the bleb as a secondary inflammatory process, and not a primary dermatitis, as he previously supposed.

Gilchrist has met with three cases. His first patient had had the eruption all her life, although there was no hereditary history. She could produce the lesion at any time by tightening her garter. At the Johns Hopkins Dispensary he saw two patients with the eruption—mother and son. The mother's father had also been a victim to the disease, making three cases in three successive generations. The lesions were particularly numerous on the extremities, and both of the patients were able to produce the vesicles artificially by friction.

Sections taken from the normal skin of the mother showed degenerative changes in the basal layer, but were not so pronounced as in Elliott's case. Gilchrist thinks the underlying cause is doubtless an embryonic one, the patient being born with a basal layer of the epidermis in a poor condition; hence the formation of bullae from slight friction.

Columbini, in a recent and elaborate article, describes the disease in a patient, male, twenty-six years of age. In three generations of the family twenty-four out of forty-seven members had been affected. Eighteen of them were males and six were females. He failed to find the degenerated cells in the basic layer, as pointed out by Elliott and confirmed by Gilchrist. Animal experiments and inoculation of culture media proved the bullous exudate sterile.

In a differential blood-count made from the circulating blood 8 to 10 per cent. of eosinophiles were found, and 10 to 14 per cent. were present in the fluid taken from the blebs.

The urine of the patient was slightly acid, and contained half the normal amount of sodium chloride, a low per cent. of urea and phosphates, but no indican.

Columbini states that such a urinalysis indicated a marked disturbance in the normal metabolism of his patient, and he presents the theory that the lesion is possibly due to an inherited or acquired toxin which varies in the amount eliminated with the increased or diminished vascularity of the skin. This toxin, he thinks, can be a peculiar autotoxin handed down from parent to offspring.

From his review of the literature it can be seen that the etiology of epidermolysis bullosa hereditaria is a question still open for interesting discussion and investigation. The various observers are agreed, however, that the disease is hereditary, and it recurs for many years, but tends to disappear gradually, and does not endanger life.

The bullae are more common in summer than in winter, and appear on parts of the body most likely to be subjected to friction. There is in almost all of the cases a history of excessive sweating.

Males seem to be more frequently affected than females. Constitutional symptoms are rare or trifling. Proofs of bacterial origin, or causative nerve lesions, are wanting. The vesicles usually begin as slightly itching papules, which rapidly develop into tense bullae of varying size. They appear in successive crops, and generally rupture spontaneously in eight to ten days' time, leaving no scar, but frequently a pigmented area. The upper layers of the epidermis remain practically normal, the line of separation being in the basic layer. Finally, some of the most recent investigators are inclined to ascribe as the cause of the disease the very unstable condition of the lowest layer of the epidermis, as first shown by Elliott, and that friction, or, in some cases, slight injury, causes an exudate to be formed in this layer or between it and the corium, with the resulting bleb. Treatment is wholly unsatisfactory. The blebs should be punctured and protected by a mild antiseptic ointment, and the cause of friction removed when possible.

Report of Case.—The patient, Rebecca Jones, mulatto, aged seven years, has, since early infancy, been subject to a breaking out of water-blisters on her hands, feet, buttocks and scalp. The eruption begins as small, itching pimples, which are rapidly transformed into tense vesicles varying in size from a small pea to a pullet's egg. They remain about one week before breaking, and after drying up leave a brownish discoloration, but no scar. It has been noticed that these blisters are numerous in the warm weather of spring and summer, and have rarely appeared during the winter. The father, who gives the history, has, since his earliest recollection, been, at times, a sufferer from the disorder. His mother was also similarly affected. His wife has never miscarried, and is the mother of eight children, three of whom—two brothers and one sister of our patient—have at intervals since their birth had the eruption. The father remarked that the children who appeared the strongest were those affected. The patient had gone without shoes during the last summer owing to the fact that they had been during the previous summer a constant source of irritation to her feet, with consequent blister-formation. She had worn her shoes but a few days in the autumn when she came for treatment, and was seen by me in the Children's Clinic of the Woman's Medical College in October, 1899.

Examination of Patient.—Patient is a bright, well-developed mulatto girl. On the scalp, buttocks, abdomen and the extensor surfaces of the forearms and legs pigmented areas are seen. Tense bullae, containing clear fluid and ranging in size from a large pea to a robin's egg, are situated mainly on the feet. On the outer and inner surfaces of the left foot, below the malleoli, are large bullae. The exudate of the inner bulla is slightly blood-tinged. Behind the right heel there is a bleb of considerable size, which causes the patient to limp. Vesicles of smaller size are irregularly scattered over the feet and the legs. The smallest one is on the extensor surface of left forearm, just above the wrist-joint. Excision of a bleb was refused. When the patient was next seen, two weeks

later, the bullae had all disappeared. A small piece of normal skin was excised from right forearm and sections made. Microscopical examination showed at intervals along the basal layer of the epidermis a grouping of irregular, deep-staining nuclei, which were surrounded by vacuolic areas. Again, this layer showed in other places elongated nuclei arranged in more or less confusion. Dr. Gilchrist noted the changes, and remarked that they were similar to those he had seen in the specimens taken from the normal-looking skin of one of his patients. After careful search of the literature the writer has been unable to find a case of epidermolysis bullosa hereditaria recorded in the negro. He begs to take this opportunity of expressing his sincerest thanks to Dr. Gilchrist for valuable aid received, and to Dr. Thos. R. Brown he is indebted for the interesting notes on the blood-count.

TABLE OF THE CASES REPORTED IN AMERICA, SHOWING THE RELATIVE FREQUENCY OF THE DISEASE IN THE SEXES AND ITS HEREDITARY NATURE.

Observer.	Number of cases occurring in successive generations.	Male	Female	Remarks.
Elliot, 1892....	Two cases in two generations.....	2	..	Hereditary.
Elliot, 1893....	One case in one generation.....	1	..	Acquired.
Elliot, 1895....	One case in one generation.....	1	..	Acquired.
Gilchrist, 1899....	One case in one generation.....	..	1	Acquired.
Gilchrist, 1899....	Three cases in three generations....	2	1	Hereditary.
Russell, 1900....	One case in one generation.....	1	..	Family history obscure.
Smith, H. L., 1901....	Six cases in three generations.....	3	3	Hereditary in the Negro.

BIBLIOGRAPHY.

Fox, T.—"Notes on Unusual or Rare Forms of Skin Disease." Lancet, Vol. I, 1879.

Goldscheider, A.—"Hereditäre Neigung zur Blasenbildung." Monatshefte für praktische Dermatologie, Vol. I, 1882.

Payne—St. Thomas' Hospital Reports, Vol. XII, 1882; Vol. XIV, 1884; Vol. XVI, 1886.

Legg, J. W.—"Cases of Congenital Pemphigus Persistent from Birth." St. Bartholomew's Hospital Reports, Vol. XIX, 1883.

Valentin—"Hereditäre Dermatitis Bullosa." Berlin. klin. Wochenschrift, 1885, p. 150.

Joseph—Monatshefte für prak. Derm., No. 1, 1886.

Köbner—"Epidermolysis Bullosa Hereditaria." Deutsch. med. Wochenschr., 1886.

Brooke—Monatshefte für prak. Derm., Vol. VI, 1887.

Brocq—Records Vidal's case, Hallopeau's case and Besnier's case. "Traitement des Maladies de la Peau," p. 605, 1890.

Besnier—(See Brocq.)

Bonaiuti—Il Morgagni, December, 1890. Abstracted by Barendt in Brit. Jour. Derm., Vol. V, 1893; vid. Rev. des Sc. Med., Vol. XXXVII, 1891; Monatsh. für prak. Derm., Vol. XVI, 1893.

Lesser—Monatsh. für prak. Derm., Vol. XV, 1892.

Herzfeld—Berlin. klin. Wochenschr., No. 34, 1892.

Blumer, C.—Archiv für Derm. u. Syph. Ergänzungshefte, Vol. II, 1892; referred to in Monatsh. für prak. Derm., Vol. XVI, 1893.

Duhring—"Congenital Chronic Pemphigus, with Atrophy of Skin." Internat. Clinics, Vol. III, second series, 1893.

Elliott—Jour. Cutaneous and Genito-Urinary Diseases, Vol. XIII, 1895; also Vol. XV, 1897; Trans. Amer. Dermatolog. Asso., 1899; New York Med. Jour., Vol. LXXI, 1900.

Wechselbaum—"Ueber neuere Beobachtungen von Epidermolysis bullosa hereditaria." Berl. klin. Wochenschr., No. 42, 1895.

Hoffmann—"Hered. Neigung z. traumatischer Blasenbildung." Münch. med. Wochenschr., 1895.

Hallopeau—Annales de Derm., 1896.

Lunn—Brit. Jour. Derm., Vol. IX, 1897.

Galloway—Brit. Jour. Derm., Vol. IX, 1897.

Beatty—"Epidermolysis bullosa." Brit. Jour. Derm., Vol. IX, 1897.

Fox, C.—Brit. Jour. Derm., Vol. IX, 1897.

Grunfeld—"Ein Fall von Epidermolysis bullosa congenita." Arch. für Derm. u. Syph., Theil I, 1898.

Varga—"Ein Fall von Epidermolysis bullosa hereditaria." Arch für Derm. u. Syph., Bd. XLVI, Heft 1, 1898.

Ludwig Török—"Epid. bul. hered." Arch. für Derm. u. Syph., Bd. XLVII, Heft 3, 1899.

Rona—"Zwei Fälle mit Epidermolysis bullosa." Arch. für Derm. u. Syph., Bd. L, Heft 3, p. 339, 1899.

Gilchrist—Trans. Amer. Dermat. Asso., 1899.

Sherwell—Trans. Amer. Dermat. Asso., 1899 (case of doubtful nature, reported as congenital dermatitis herpetiformis).

Russell, C. P.—"Epidermolysis bullosa." Jour. Cutaneous and Genito-Urinary Diseases, Vol. XVIII, 1900.

Columbini—Monats. für prak. Derm., Bd. XXX, No. 10, 1900.

Wilheim—Wien. klin. Rundschau, Bd. XIV, 1900.

* * *

A Note on the Blood in Epidermolysis Bullosa Hereditaria. By Thomas R. Brown, M.D., Baltimore.

The subject of the blood in various diseases of the skin has been of great interest to many observers because of its association with the subject of the origin of the white-blood cells, especially the eosinophiles.

These last-mentioned cells have always proven an absorbing study to many investigators because of their physico-chemical peculiarities, and because of the many theories which are held regarding their mode of origin. Ehrlich has always believed that their seat of formation is the bone-marrow, whence they are drawn by some chemotactic substances produced by the pathological changes in the affected spot; Müller and Reeder believe that they are formed from the polymorpho-nuclear neutrophiles, the transition taking place in the circulating blood; T. R. Brown, that they may be derived by transition in the affected muscle areas from the

polymorpho-nuclear neutrophiles in a series of cases of trichinosis reported by him, and Kischensky, that the same local transition occurs in bronchial asthma, in both cases the general eosinophilia being caused by a washing out of these eosinophiles into the circulatory blood from their seats of formation; Klein, that they are derived from polymorpho-nuclear neutrophiles because of the ingestion of blood pigment; Kanthack, that they arise from pre-existing eosinophiles in the tissues or from fixed connective tissue cells; and Howard, that they are derived from the plasma cells.

Thus the origin of these cells is still in doubt, and it is certainly possible that their genesis may differ with the pathological process with which their local or general increase is associated.

In many diseases affecting the skin an increase of these cells in the blood has been sometimes noted above the 1 to 2 per cent. normally found, as in urticaria, dermatitis herpetiformis, pemphigus, some varieties of herpes, prurigo, eczema, ichthyosis, lymphodermia perniciosa, and scarlet fever. In some of the diseases a local increase of these cells in the affected spot as well as the general increase in the circulating blood is also noted.

Neusser (*Wien. klin. Wochenschr.*, 1892, pp. 41, 64) first called attention to the increase of eosinophiles in the circulating blood in pemphigus, as well as the presence of large numbers of these cells in the vesicles. Canon (*Deutsche medicinische Wochenschrift*, 1892, p. 206) substantiated this, as well as Zappert (*Zeitschr. f. klin. Med.*, 1893, XXIII, p. 227), who found 33.02 per cent. and 29.28 per cent. of eosinophiles in the blood in two cases of this disease. Bettmann (*Volkmann's Sammlung klinischer Vortrager*, 1899, No. 266) describes an increase in pemphagus chronicus, psoriasis, prurigo, ichthyosis, eczema, and lupus; he found 45 per cent. in a case of eczema. Canon believed that the degree of the eosinophilia depended upon the extent of the lesion, while Zappert and Bettmann opposed this view. Hallopeau (*Arch. f. Dermatol.*, XLIII, p. 288) and Lafitte and Leredde (*Monats. f. prakt. Dermatol.*, 1898, XXVII, p. 381) found an eosinophilia in the blood in pemphigus vegetans, dermatitis Duhring and Hallopeau's disease, and believe that it is of value as an aid to diagnosis, while Truffi (*Giornale ital. delle mal. vener.*, 1898, p. 757) regards eosinophilia as an unfavorable prognostic sign. T. R. Brown (*Journal of Experimental Med.*, 1898, III, p. 320) found 24 per cent. of eosinophiles in the blood in a case of chronic eczema of large extent and long duration. Brown and Dale (*Journal of the Amer. Med. Asso.*, 1900, February 17, p. 407) found 44.3 per cent. in a case of dermatitis herpetiformis which had lasted for twenty-seven years, while Canot found 19 per cent. in a case of the same disease.

Besides this eosinophilia of the blood, there is a local eosinophilia in some of these skin diseases. This has been especially noted in the vesicle in chronic pemphigus and dermatitis herpetiformis (Duhring), which, according to Kaposi, is but a variety of pemphigus.

Neusser, Gollasch and Lukasiewicz first called attention to the great number of eosinophiles in pemphigus vesicles in contradistinction to other vesicles, the number of eosinophiles being marked in the fresh vesicle, but being replaced by neutrophiles as the vesicles dried up.

Bettmann (*Münchener med. Wochenschr.*, 1898, XLV, p. 1231) has also seen eosinophiles, although in smaller numbers, in herpes zoster and the vesicular form of erythema exudativum multiforme, the latter of which observations has been substantiated by Kriebich (*Arch. f. Dermatol. u. Syph.*, L., part II). Bettmann also obtained eosinophiles in the vesicles artificially produced by the application of cantharides, but very few or no eosinophiles in the vesicles in eczema, varicella, miliaria and burns.

In all the cases in which the local eosinophilia was noted this was much more marked the fresher the vesicle, as with the drying of the vesicle the eosinophiles were replaced by neutrophiles.

Thus, although neither a general nor a local eosinophilia can be regarded as the attribute of any especial disease, they are especially likely to be associated with pemphigus and pemphigoid eruptions.

It was on this account that I was much interested in the blood-count and the contents of the vesicles in Dr. Smith's most interesting case of epidermolysis bullosa hereditaria, and which he kindly asked me to see in this connection. The examination was made at a time when the vesicles had almost dried up, and when their contents were very thick and hemorrhagic.

The blood-count showed 11,000 leucocytes per c. mm., of which 42 per cent. were polymorpho-nuclear neutrophiles, 40.6 per cent. small monoclears, 7.7 per cent. large monoclears and transitional forms, and 9.7 per cent. eosinophiles. There was thus a moderate eosinophilia, the eosinophiles being all of the polymorpho-nuclear variety. The examination of the blood in the vesicles showed a number of red-blood cells, some polymorpho-nuclear neutrophiles and very occasional eosinophiles, not more than 4 or 5 per cent. The scantiness of eosinophiles was probably due to the fact that the vesicles were old and drying up, if we are to believe Bettmann's views on the subject. Unfortunately, I was not able to make the blood-count or examine the vesicle contents at the time of a fresh outburst of the eruption.

This agrees with the results obtained by Columbini (*Monatshefte f. praktische Dermatologie*, 1900, May 15) in the only case of this disease in which I find the detailed blood-count given. He found 8 to 10 per cent. of eosinophiles in the circulating blood, and 10 to 14 per cent. in the contents of the vesicles.

The condition of the blood and the contents of the vesicles, therefore, harmonize with what we should expect from the pemphigoid character of the disease, namely, that there is both a general and local eosinophilia, although of moderate grade.

KOPLIK'S SPOTS: THEIR VALUE IN THE DIAGNOSIS OF MEASLES, PARTICULARLY IN PRIVATE PRACTICE.

By John Zahorsky, M.D.,

Clinical Lecturer on Children's Diseases, Washington University, Medical Department, St. Louis.

In the February number, 1900, of the Maryland Medical Journal, in answer to the question, "What value do you place upon Koplik's sign in the diagnosis of measles?" I gave the following as my conclusions:

"Koplik's sign is found only in connection with measles, and when present is a pathognomonic sign of that disease.

"This sign may be absent in undoubted measles; therefore the absence of this sign does not exclude measles. It would as yet be unwarranted to call all cases having the clinical symptoms of measles, but not showing this sign, cases of rubella."

Another year's experience has served to strengthen my belief that the opinion expressed at that time was correct. During the past year about twenty-six cases of measles were seen by me, mostly in private practice. Koplik's sign was present in eighteen cases; in eight cases the sign was not found.

I have examined the mucous membrane in many cases of drug eruptions, antitoxine rashes, congenital syphilis and influenzal exanthem, but the sign was never present. I have not seen a case of rubella in this time.

The characteristic features of Koplik's sign are minute bluish-white spots, very slightly elevated, and situated on an inflammatory base. At the commencement of the buccal enanthem irregular lenticular areas of congestion are visible, which soon become more or less confluent, forming irregular patches. After two or three days of prodromal fever the enanthem is well marked. This constitutes the eruption of measles on the mucous membrane, and is analogous to the efflorescence on the skin. But while the eruption on the skin is almost characteristic, the enanthem is not diagnostic until the bluish-white spots appear.

These spots are composed principally of epithelial cells. The important inference, then, is that *Koplik's spots are a furfuraceous desquamation of the mucous membrane, and entirely analogous to the desquamation of the integument.*

What we really see is the fine scaling of the mucous membrane. When this explanation of the spots is borne in mind their exact clinical significance becomes clear.

Is the exanthem of measles the only eruptive disease that is unaccompanied by a fine desquamation on the mucous membrane?

All clinicians who have studied these spots have unanimously

agreed that this scaling, or Koplik's sign, is formed only in measles. Yet it seems to me that the possibility of a slight desquamation occurring in rubella has not been entirely excluded. A slight desquamation sometimes occurs on the skin; why not on the mucous membrane?

So far as observation extends at present we must conclude that this is present in measles only.

But is it always present in measles?

The answer is definite, and for practical purposes very significant: This sign is *not found* in a certain number of cases of undoubted measles.

1. Occasionally the spots are entirely absent.

The exanthemata may be very mild, and little or no eruption may be noticed. This is true of scarlet fever and rubella, and is also true of measles. The eruption on the mucous membrane may be so insignificant that no scaling follows. We know that the catarrhal symptoms vary enormously.

Two such mild cases have come under my observation in the last year. There can be no doubt that these were cases of measles, since both were in families where measles, with all its signs, was prevalent. The desquamation, if any, was so scanty as to escape detection, although carefully sought daily.

2. The patient may not be seen at the proper stage of the disease. The spots appear from one to three days before the eruption on the skin. They persist from a few hours to several days.

Their presence is exceedingly fleeting in many cases. Thus, to give an example, in a little patient who showed the white spots in enormous numbers on the buccal and labial mucous membrane on the day before the eruption I was unable to find a single spot two days later. Now, had I been called on the second day of the eruption I should have been inclined to call the disease rubella.

In another instance the patient was seen on the fourth day of fever, when marked catarrhal symptoms of the upper-air passages were present. Koplik's spots were absent. On the proof of their absence I made a diagnosis of influenza. But on the following day a few spots were found, and on the sixth day of fever a typical rash of measles appeared. In this case the prolonged stage of invasion served to confuse, and consequently an erroneous diagnosis was made.

When the rash has appeared on the body the scaling process in the mouth may be at an end.

3. The white spots may be entirely removed. I have observed several times that the chewing of solid food rapidly removes the scales. Bread or meat which requires mastication may effectually cleanse the mucous membrane, so that no spots are visible.

4. The light may be imperfect.

Daylight is necessary to get a good view of these spots. Visits in the evening, when a lamp or gaslight is used, are not likely to lead to the discovery of these minute spots.

It is obvious, therefore, that the spots may not be found. Not

infrequently, in my clinic, cases are presented which show the typical rash of measles. The cases not showing Koplik's spots are carefully interrogated and examined. If the post-cervical glands are enlarged and the prodromal fever has been very short, and there is no trace of Koplik's spots, the disease is diagnosed rubella. But if the prodromal fever lasts three or four days, and the glands are only slightly enlarged, the disease is assumed to be measles, even if the spots are absent. Often in place of the bluish-white spots very minute purplish or dark red spots may be seen. These show the places where the scales have been removed, and are diagnostic.

There can be no question of the value of Koplik's sign when present; but when absent, all the symptoms and signs, with the history of the case, must be considered before measles can be excluded.

It should not be forgotten that the earliest sign of measles is the typical rash on the mucous membrane. Sometimes it may be readily recognized, particularly on the palpebral conjunctiva.

MYCOSIS TONSILLARIS.

By Hughlett Hardcastle, M.D.,

Demonstrator of Diseases of the Throat and Nose, University of Maryland.

READ BEFORE THE MEDICAL SOCIETY OF THE UNIVERSITY OF MARYLAND, MARCH 8, 1901.

My excuse for presenting the subject of mycosis tonsillaris is the infrequency of its occurrence and also the possibility of its being mistaken for follicular tonsillitis, though this should not occur where one has ever seen a typical case of the first-mentioned disease. I use the word *infrequency* because on exhibiting, a few weeks ago, to the Maryland Laryngological Association a patient suffering from this disease several of the older members stated that they had in their professional careers seen only a very few cases. It has been my good fortune to see four cases during the past two months. Two of them came to me complaining of pain on swallowing at the base of the tongue, another because he had something white on his tonsils, and the last one was afraid he might be getting diphtheria. The pain at the base of the tongue was due to an acute inflammation of the lingual tonsil, and was relieved by one or two applications of an astringent solution.

The disease was first described by E. Fraenkel in 1873. He says that he accidentally discovered some white spots on the tonsils and at the base of the tongue. They (the white spots) caused no trouble, and when removed instrumentally grew directly again. These white spots which Fraenkel mentions look like small tufts

of moss, are a fungus growth, assumed to be non-pathogenic, and consist of one or more varieties of leptothrix belonging to the schizomycetes group of bacteria. These spots vary in size, ranging from mere pin points up to tufts one-sixteenth inch in diameter, are milk-white as to color, and are elevated above the mucous membrane, looking like tufts of moss. In follicular tonsillitis the *spots* have a yellowish color, are situated under, or at least do not rise above, the level of the mucous membrane, and are caused by the plugging up of the mouths of the follicles.

In mycosis tonsillaris we rarely find any local inflammatory trouble, and when we do it is very doubtful if the disease under discussion is the cause of the same. In follicular tonsillitis we have constitutional symptoms accompanying a local inflammatory condition. This disease is discovered when a patient comes to be treated for some other trouble of the nose or throat, or when, as Moritz Schmidt says, "they come to the physician because they have seen something white in the throat." The usual situations of the mycotic growths are on the faucial and lingual tonsils. In three of my cases the growths were so situated; the fourth, however, had in addition two small patches on the pharyngeal wall, just behind the posterior pillar on the right side. Besides the sites already mentioned, they have been found on the pharyngeal tonsil, faucial pillars, anterior part of inferior turbinate, false cords, and in the trachea. These growths are practically always found upon some chronically inflamed tissue. Inoculations have been made in the pharynx of a person who had never had the disease. After a few weeks it disappeared without any treatment.

Although the disease was described twenty-eight years ago, the eradication of the fungus is as difficult now as it was then, and, as a rule, may be accomplished only with the curette and cautery, galvano or chemical, the former being the better. One of the German authors says "these harmless sparrows of the pharyngeal pathology can be shot successfully only with cannons." Other remedies which have been tried, and each successfully employed in one or two cases, are alcohol, nicotine (.2 per cent. solution), bichloride of mercury (1-2000 solution), tincture of iodine, and many others; but whatever treatment is adopted must be persistently pushed. In one of my cases I advised the patient to resort to moderate smoking. This is recommended by some German writers, and in my case after ten days I found quite a diminution of the fungus. One of my patients, however, was already a smoker, so that I recommended to him the curette and cautery, but as he was leaving the city on the next day I did not attempt to do anything for him, advising him to leave it to take care of itself. To quote Moritz Schmidt again, "there are many physicians, and I belong to them, who do not treat pharyngo-mycosis, as Fraenkel calls the disease, since it does no harm." The disease, according to statistics, occurs more frequently in females than in males. My four patients were all males, their ages ranging from twenty to thirty. The diagnosis may always be confirmed by removing one of the tufts,

teasing it out and then examining microscopically; a specimen stained with gentian violet will bring out the fringes very distinctly.

BIBLIOGRAPHY.

Schmidt: "Die Krankheiten der oberen Luftwege," 2. Auflage.
Heyman: "Handbuch der Laryngologie und Rhinologie,"
Lennox Browne: "The Throat and Nose and Their Diseases," fifth edition.

Current Literature.

A REVIEW OF SOME OF THE RECENT WORK ON THE PHYSIOLOGY AND PATHOLOGY OF THE BLOOD.

By Thomas R. Brown, M.D., Baltimore.

(CONTINUED FROM MARCH, 1901.)

VII. THE BLOOD IN SPECIAL DISEASES AND PATHOLOGICAL CONDITIONS.

In this section of our article we will consider the recent work on various diseases and pathological conditions, with the exception of the recent work on the primary anemias (pernicious anemia, chlorosis, leukemia, and pseudo-leukemia), which has been already considered. For ease in reference this section will be subdivided into: 1. The blood in infectious diseases, including (a) tuberculosis, (b) pertussis, (c) diphtheria, (d) scarlet fever, (e) syphilis, (f) typhoid fever, (g) other infectious diseases; 2. The blood in cancer and other diseases of the gastro-intestinal tract; 3. The blood in cardio-vascular diseases; 4. The blood in (a) diabetes mellitus and (b) gout; 5. The blood in mental and nervous diseases, including (a) general paralysis, (b) chorea, (c) functional neuroses, (d) epilepsy, (e) diseases associated with convulsions (except eclampsia); 6. The blood in pregnancy, labor, and the puerperium (including the blood in eclampsia); 7. The blood in diseases due to animal parasites, including (a) trichinosis and (b) anchylostomiasis; 8. The blood in diseases of the skin; 9. The blood findings in various other diseases and pathological conditions, including (a) beri-beri, (b) after thyroidectomy, (c) bacteria in the blood in disease, (d) gonorrhea, (e) diseases of internal genital organs in women.

1. *The Blood in Infectious Diseases.*

(a) The *rôle* of the leucocytes in subcutaneous experimental tuberculosis is discussed by Dembinski (*Gaz. Hebdom. de Med. et de Chir.*, Jan. 11, 1900). A guinea-pig was inoculated with cultures of the tubercle bacillus. A leucocytosis resulted, which was

polymorpho-nuclear for the first two days, and mononuclear from the third day on. At the end of twenty-four hours phagocytosis was marked. If a tuberculized guinea-pig was inoculated with a culture of the tubercle bacillus the resulting leucocytosis presented a mixture of the polymorpho-nuclear and mononuclear type; phagocytosis was more energetic and appeared sooner; bacilli were found in the cytoplasm both of the polymorpho-nuclear neutrophiles and the mononuclears from the first few hours after the inoculation.

(b) De Amicis and Pacchioni (*Clinica Med. ital.*, No. 1, 1899) call especial attention to the leucocyte-count in pertussis, their results being entirely confirmatory of those of Frölich and Meunier concerning the occurrence in this disease of a leucocytosis as marked, if not more so, than in any other disease of the respiratory tract except, perhaps, lobar pneumonia. They found the average number of leucocytes in this disease to be 17,943, beginning on the first day of the disease, reaching its height in the convulsive stage, and still demonstrable some time after the cessation of the typical symptoms. The increase seems to be especially confined to the mononuclear elements, the small mononuclears being most numerous in the first and second stages of the disease, the large mononuclears in the third stage.

(c) Engel (*Deutsche med. Wochenschr.*, XXIII, No. 8, 1897) says the condition of the blood is a most valuable prognostic sign in diphtheria, basing his conclusions upon the study of thirty-two cases in children. According to him a high percentage of myelocytes is unfavorable. Thus, in seven children who died, from 3.6 per cent. to 16.4 per cent. of myelocytes were met with, while in the cases that got well 1.5 per cent. was the highest percentage met with. There were, however, eight other deaths in which no strikingly high counts were met with. Engel calls this condition "myelocythemia following diphtheria."

Besredka (*Ann. de l'Inst. Pasteur*, XII, 5, p. 305, 1898) undertook a careful blood examination in animals with experimental diphtheria, and in forty-nine children sick with this disease. He found that the leucocytosis which is usually met with is not parallel with the increase of the polymorpho-nuclear neutrophiles. With an injection of the strongest doses the leucocytes reach their maximum in from twelve to sixteen hours, the number sinking after that until the time of death. By slow poisoning the leucocytes remain high, but show many variations. Those given large doses, but healed with the serum, acted as those slowly poisoned, the normal being reached in from twelve to fifteen days. If the course of the disease was irregular the condition of the patient could be best told by the relation between the severity of the symptoms and the polymorpho-nuclear neutrophile leucocytosis. The grade of the polymorpho-nuclear neutrophile leucocytosis after the administration of the serum gives the prognosis. Thus, if one to two days after the injection the percentage of these cells is 60 or above, the prognosis is good; with a higher temperature and 50 per cent.,

the prognosis is bad, while if below 50 per cent., the prognosis is fatal.

(d) Van der Berg (*Arch. für Kinderheilkunde*, XXV, p. 321) examined the blood in sixteen cases of scarlet fever. In all cases a leucocytosis was met with lasting from twenty to thirty days, the increase of the leucocytes being especially confined to the polymorpho-nuclear neutrophiles and the transitionals. In almost all the cases a very high count of the red-blood cells was met with at the beginning of the disease, which Van der Berg regarded as probably due to a spasmodic rapid production of red-blood cells(!).

It would certainly seem that a more rational explanation for this increase might be given by vaso-motor disturbances. No mention is made of the increase of eosinophiles in this disease, as noted by Kotschetkoff, Zappert and others, who regarded it as a favorable prognostic sign.

(e) The especial interest associated with the study of the blood in syphilis is connected with the observations of Justus (*Virchow's Archiv*, CXL, 1, p. 1), who reported a marked fall of hemoglobin within a few hours after mercurial inunction in 100 cases of this disease, and its absence in other diseases.

Cabot and Mertens (*Boston Med. and Surg. Journal*, CXL, No. 14, 1899) have carried on a series of experiments to test the truth or falsity of Justus' results. Forty-three cases of various kinds were tested. In the seven cases of syphilis examined a drop of from 10 to 35 per cent. was noted, while in no other cases did any drop occur except in one case of chlorosis, where the hemoglobin fell 13 per cent.

(f) Naegeli (*Deutsch. Arch. f. klin. Med.*, LXVII, parts 3 and 4) contributes a very interesting and valuable article on the leucocytes in typhoid fever. A great number of investigations was made upon more than fifty cases of typhoid fever; the blood was examined many times in each case, often more than fifteen, sometimes more than twenty-five times; differential counts were made, the number of leucocytes was determined, and the conditions found were compared with the clinical findings of the case. The conclusions arrived at were as follows: In typhoid fever systematic blood-counting is valuable both for diagnosis and prognosis.. The alterations in the numbers (not necessarily the percentages) of the polymorpho-nuclear neutrophiles, eosinophiles and lymphocytes are characteristic in the different stages of the disease, and are produced by the action of the typhoid toxins upon the bone marrow, hindering the production of polymorpho-nuclear neutrophiles and eosinophiles. It is probable that the functions of the lymphatic tissues are also disturbed. The changes in the first stage of the disease (steadily rising temperature) are: a neutrophilic leucocytosis of moderate degree, rapidly decreasing until the neutrophiles are diminished, a disappearance of the eosinophiles, and a moderate decrease of the lymphocytes. In the second stage (continued fever) the polymorpho-nuclear neutrophiles and lymphocytes are still further decreased, although towards the end of this stage the

latter tend to increase again. In the third stage (remission) the neutrophiles become fewer, the lymphocytes continue to increase, and a few eosinophiles appear. In the fourth stage (defervescence) the neutrophiles reach their minimum, the lymphocytes are greatly increased, and the eosinophiles gradually return to their normal number. As soon as the fever disappears the neutrophiles begin to increase again, and there is often for some time a considerable lymphocytosis.

All these blood changes are more pronounced in childhood. In cases of suppurative complications there is usually an increase in the polymorpho-nuclear neutrophiles. If this is absent the prognosis is grave.

Favorable indications are the early appearance of the eosinophiles, the moderate diminution in the polymorpho-nuclear neutrophiles, and the extreme increase of the lymphocytes.

(g) Blum (*Wien. klin. Wochenschr.*, April 13, 1899) considers the leucopathic conditions of the blood in *infectious diseases*. Of five cases of influenza, in four a leucopenia was noted, while in the one case in which a leucocytosis was met with pneumonia was present as a complication. Leucopenia was present in six of fifteen cases of tuberculosis, and in all these six intestinal symptoms were present.

He concludes that the leucopenia met with in influenza, in tuberculosis and in typhoid fever is due to involvement of the lymphoid tissues of the intestines, while digestive leucocytosis is due to stimulation of these tissues, and when the above diseases are met with digestive leucocytosis is absent.

2. *The Blood in Cancer and Other Diseases of the Gastro-Intestinal Tract.*

Krokiewicz (*Arch. für Verdauungskrankheit.*, VI, part 1), from the study of seventeen cases of gastric carcinoma, comes to the conclusion that the hematological picture is a varied one during the course of the disease, and furnishes nothing absolutely definite and characteristic. According to Krokiewicz the lack of relationship between the blood changes and the grade of cachexia is especially striking; the red-blood cells varied between 1,866,000 and 6,360,000 per c. mm.; the hemoglobin between 30 per cent. and 90 per cent. The author believes that a high count of the red-blood cells and a relatively high percentage of hemoglobin, which remain stable during the course of the disease, speak for a secondary new formation of the growth on the peritoneum. A digestion leucocytosis was found in only four cases. In almost all cases a decreased alkalinity of the blood was noted.

Osler and McCrae (*New York Medical Journal*, May 19, 1900) reach somewhat different conclusions regarding the blood in *cancer of the stomach*. Their conclusions are: (1) In a doubtful case a blood-count below 1,000,000 red-blood cells per c. mm. is strongly in favor of pernicious anemia; (2) while nucleated red-blood corpuscles occur in all very severe anemias, megaloblasts rarely, if ever, occur in cancer of the stomach; (3) neither an increase in the

leucocytes nor special variations in the various forms appear to be of any moment in diagnosis of gastric carcinoma; and (4) the presence or absence of a digestion leucocytosis is too uncertain to be of much assistance in diagnosis. One hundred and fifty cases of gastric carcinoma have been considered in reaching these conclusions.

Jez (*Wiener klin. Wochenschr.*, 1898, XLVIII, Nos. 14 and 15) thinks that in gastric carcinoma the many nucleated reds found are to be regarded as an "expression of auto-intoxication."

Hofman (*Zeitschr. für klin. Med.*, 1898, XXXIII, parts 5 and 6, p. 460) and Chadbourne (*Berliner klin. Wochenschr.*, 1898, XXXII, No. 2) think that too much significance should not be attached to the absence of the digestion leucocytosis. Although usually wanting in gastric carcinoma, it may be present, and must be regarded only as evidence of a severe disease, affecting a large area of the gastric mucosa.

Lichty (*Philadelphia Medical Journal*, February 11, 1899) considers *the relation between the blood, urine and gastric contents in diseases of the stomach.* His conclusions are: (1) The average hemoglobin percentage is slightly above normal in hyperchlorhydria, and slightly below normal in hypochlorhydria; (2) the average hemoglobin percentage is greater in cases of gastric achylia than in hyperchlorhydria; and (3) with these exceptions there seems to be no definite relation between diseases of the stomach and the blood and the urine.

3. *The Blood in Cardio-Vascular Diseases, and in Nephritis.*

Askanazy (*Deutsch. Arch. für klin. Med.*, 1897, LIX, parts 3 and 4) furnishes an article of great value on the water contents of the blood and blood serum in diseases of the circulatory organs, nephritis, the anemias, and fever. On a careful consideration of the subject, Askanazy found that women have a lower specific gravity of the blood and less dried substance than men. On the other hand, he found (contrary to the view usually held) that women's serum was poorer in water and had a higher specific gravity than men's. In heart disease, if compensation was present, the blood as a whole and the serum were normal; if there was lack of compensation the blood serum showed a lower specific gravity, depending on the grade of the hydrops. The blood sometimes showed thinning, sometimes thickening, the latter condition being more marked where cyanosis was present in a high degree. The absolute water contents of the whole blood was independent of the grade of edema.

In nephritis without hydrops normal blood was met with, with only occasionally a slightly increased water contents of the serum; if hydrops was present the blood as a whole and the serum showed a not markedly increased water contents.

Both primary and secondary anemias showed considerable increase of the water contents of the blood. In chlorosis the serum was usually normal, while other anemias showed an increase of the water contents of the serum. In the case of the anemias, the thin-

ning of the blood as a whole is to be explained by a decrease of the red-blood corpuscles.

Stengel (*Proc. Path. Soc. of Philadelphia*, 1899) discusses very exhaustively the blood in diseases of the cardio-vascular system, and furnishes an extensive series of observations.

In acute endocarditis a rapid fall of the red-blood cells occurs, often to 40 per cent. or 50 per cent., with an increase of the leucocytes, especially the polymorpho-nuclear neutrophiles, which may reach as much as 98.5 per cent. of all the forms. Often bacteria are to be found in the blood, including the gonococci in a few cases.

In atheroma and chronic valvular disease fatty particles and detritus sometimes occur. In chronic valvular disease sometimes slight anemia is present; in other cases, even with lack of compensation, an increase of 500,000 reds per c. mm. In chronic cardiac disease, with continued slight inadequacy of the circulation, we often get polycythemia, while in congenital heart disease the red-blood cells may reach 8,000,000 per c. mm. Grawitz explains this by loss of liquid from the blood, due to continually low blood pressure and vascular dilatation. Stengel believes it to be due to a disturbance in the distribution of the corpuscles. In cyanosis an increased viscosity of the corpuscles is noted.

Schnürer (*Centralbl. für allgemein. Path. u. patholog. Anat.*, 1899, X, pp. 322-360) furnishes a capital review of the literature on the changes in specific gravity, number of corpuscles, water contents of the serum, etc., in normal and pathological circulatory conditions.

4. *The Blood* (a) *in Diabetes Mellitus and* (b) *in Gout.*

(a) The most interesting work in connection with the blood in diabetes mellitus has been that done in connection with the Bremer and Williamson reactions.

Bremer (*Philadelphia Medical Journal*, January 14, 1899) discusses the scope of blood tests with aniline colors, and concludes that his test is almost diagnostic in diabetes mellitus. Hartwig (*Deutsch. Arch. für klin. Med.*, 1899, LXII, parts 3 and 4) believes Bremer's reaction is constant in diabetes, but does occur occasionally in other conditions. (Bremer claims that with a methylene-green eosin mixture diabetic blood is stained green, while other blood stains red.) Williamson (*Lancet*, August 4, 1900) describes a new method differing somewhat from that of Bremer. Forty c. mm. of water are placed in a small, narrow test tube; to this are added 20 c. mm. of blood, 1 c. mm. of a 1:6000 aqueous solution of methylene-blue and 40 c. mm. of liquor potassae. The test tube is placed in boiling water for four minutes, at the end of which time, if the blood is diabetic, the blue color will have disappeared and a dirty green color have taken its place. The reaction was obtained in all of forty-three cases of diabetes tested, and, according to Williamson, is due to an increase of glucose in the blood. The reaction is of especial value in coma where urine cannot be obtained. It is also obtainable for a considerable time after death.

Adler (*Zeitschr. für Heilkunde*, 1900, XXI, No. 11) discusses the relative value of the Bremer and Williamson blood reactions in diabetes mellitus. Out of twenty-five cases tested for by the Bremer method the reaction was present in five severe cases of diabetes mellitus, in two cases of leukemia, and in one perfectly healthy man. Thus, according to Adler, the reaction as performed by Bremer is of no diagnostic value. The Williamson method was used in 130 cases in all. The reaction was met with in all the cases of diabetes mellitus met with, nine in all, and in no other disease, not even if glycosuria was present. Adler believes the reaction to be due to a diminished alkalinity of the blood. He believes the Williamson reaction is peculiar to diabetic blood, and therefore of value in diagnosis.

(b) In the blood in gout Watson (*British Medical Journal*, January 6, 1900) finds myelocytes in the interval between attacks, and during the attack, especially in the latter.

(*To be concluded in May.*)

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

ON THE SENSIBILITY OF THE ABDOMINAL CAVITY AND ITS CONTENTS. Lennander. *Centralbl. f. Chir.*, Feb. 23, 1901.

In a very interesting article the author details experiments which he carried out, during abdominal operations under cocaine anesthesia, to determine the sensibility of the various intraabdominal structures.

The parietal layer of the peritoneum was found to be generally very sensitive, while the visceral peritoneum was entirely free from sensation.

In a hernia operation, performed under local anesthesia following Cushing's technic, he found the sac exquisitely sensitive both in the peritoneal surface and the subserosa (contrary to Cushing's findings). In various other operations the parietal peritoneum was found to possess sensibility to pain, but as to touch, heat, cold, etc., it has not yet been demonstrated. It was shown that this nerve supply came from the intercostal, lumbar and sacral nerves, which apparently supply the peritoneum from the anterior intervertebral foramina to the linea alba. That the peritoneum has sensibility to pain over this entire area the author has determined, but he is doubtful whether it has such in front of the kidneys and the vertebral column, the only experiment as yet tried by him seeming to show its absence in front of the vertebrae. The diaphragm is found also well supplied with nerves. The author had

numerous opportunities to test the sensibility of the various abdominal organs.

In a gallstone case which had been characterized by frightful pain in the region of the gall-bladder he found that organ to elicit absolutely no pain when clamped, incised, curetted or cauterized. The examination showed conclusively that neither the gall-bladder nor the liver had either pain or touch nerves.

In a case of nephrostomy it was found possible to open the kidney and evacuate an abscess without pain. There was also a lack of sensibility to cold, heat, chemical irritation, etc.

The stomach and intestines were found to have no nerves of sensation. It was perfectly feasible to handle, squeeze, and incise the stomach, intestine or appendix without the patient perceiving it. But if the cecum, the ascending colon, the hepatic flexure, the appendix or the lowest part of the ileum, with its mesentery, be pulled upon and drawn forward until the traction extends back to the parietal peritoneum, then the patient suffers more or less pain. Likewise, if an organ is adherent directly or indirectly to the parietal peritoneum, traction upon it will cause pain.

Robinson, Bloch, and Richet are quoted as saying that the inflamed peritoneum is much more sensitive than the normal, but Lennander shows that this is not true, as in cases where the inflammatory process is so situated that it has no direct or secondary communication with the parietal peritoneum there is no pain present and no tenderness or pressure. The pains in chronic appendicitis are due to traction on the nerves of the parietal peritoneum by the adhesions which are present. The passage of gas through the ileo-cecal valve will often cause this traction and sudden pain. At times contractions of the psoas muscle will produce the same result.

Only adhesions which extend to or involve the parietal peritoneum cause pain (with few exceptions). And cases of appendicitis, where the appendix has become adherent to the parietal peritoneum, or where the inflammation has spread to it, show much more marked symptoms to the palpating finger than those cases of a different nature.

The mucosa of the stomach and intestines, as shown in several cases where fistulae were present, is apparently without sensation of pain, touch, etc. The fact that ulcers of the stomach and intestine—round, dysenteric, and tuberculous—are generally painless, and often are not suspected until rupture into the peritoneal cavity occurs, with its consequent peritonitis, illustrates this point.

These facts indicate that intestinal cramps and colicky pains do not arise from nerve terminals in the digestive tract, but from those of the parietal peritoneum, which are drawn upon or compressed by peritoneal folds, mesenteries, adhesions or through pressed by peritoneal folds, mesenteries, adhesions, by an overdistended gut or spastic vermicular movements.

In the same manner are heartburn and sharp pains in the breast, dependent upon overdistention of the digestive tract, caused by

pressure upon the highly sensitive diaphragm. That this explanation is correct is shown by the fact that these disappear at once on relief of overdistention by evacuation of the gas.

Lennander is skeptical as to the benefits of celiotomy under local anesthesia, as he has had numerous experiences showing the harmfulness of pain upon a weak heart. He now believes a combination of local and general anesthesia preferable where it is advisable to avoid ordinary narcosis. His present plan is to use infiltration anesthesia—preceded by a dose of morphia—for the skin and aponeurosis, the cocainization of the nerve trunks encountered, and an attempt to render the peritoneum anesthetic by infiltration anesthesia; but if the subsequent procedures, manipulations, etc., cause much pain (retraction of the peritoneum being the most painful, as a rule), he thinks it advisable to induce light narcosis with ether or chloroform.

* * *

A Plea for the More Careful Study of the Symptoms of Perforation in Typhoid Fever with a View to Early Operation. Osler. *Lancet*, Feb. 9, 1901.

This plea is addressed to all physicians who see a large number of cases of enteric fever. From 7 to 14 per cent. of typhoid-fever patients die. During the first ten years of the author's service at the Johns Hopkins Hospital the percentage of deaths due to typhoid was 7.5, the minimum rate reached in general hospitals. Of the deaths in typhoid 50 per cent. are by asthenia, a result of the fever, or of the poison, or of both; 25 per cent. from perforation, 25 per cent. from hemorrhages and other accidents. Modern methods have reduced the death-rate in the asthenic class. The perforation group, as shown by the statistics of several representative institutions, remains much the same as given by Murchison and Fitz. Whether we can still further reduce the mortality of the asthenic group we cannot say, but we can speak positively of a reduction in the death-rate in what has been the most hopeless of all the complications of the disease—perforation. To January 1, 1901, eleven cases have been operated on from the medical wards of the Johns Hopkins Hospital, with recovery in 45.4 per cent. Especial attention is called to this fact, that *early diagnosis and early operation will probably save from* 30 *to* 40 *per cent. of these cases of perforation.*

These cases may be divided into three groups:

1. Those necessarily fatal cases, with much infiltration and necrosis, rendering the gut unfit for operation, and the condition of the patient contraindicating resection.

2. The operation successful, but the patient dies in the due course of the disease.

3. Complete recovery takes place.

The classical picture of perforation in typhoid fever is in reality not of perforation, but of the consecutive peritonitis, and the vital question is whether we cannot recognize the perforation and hand

the patient over to the surgeon within twelve hours of the onset, before the peritonitis has become widespread. Unfortunately, the symptoms are often obscure. What is particularly urged is the careful study of the abdominal symptoms in every case of typhoid fever, and the early association of the surgeon in cases likely to become surgical.

The following schedule is given to help the physician in drawing up his clinical memoranda:

1. The pain. (a) Its onset, whether simply an aggravation of the slight abdominal pain, such as is common with constipation or with diarrhea, or whether it is a sudden, intense pain which, though relieved by stupes, etc., recurs in paroxysms and grows worse. (b) Its locality, whether in the hypogastric or in the right iliac region, or in the region of the gall-bladder, whether diffuse or localized, whether it radiates towards the pubes or to the penis.

2. The state of the abdomen. (a) Whether flat, scaphoid or distended, and whether, if distended, it is uniform, or chiefly in the hypogastric region. (b) The respiratory movements, whether seen uniformly, and whether above or below the navel. (c) Palpation. Observe the degree of tension of the abdominal wall, the presence of pain on pressure, the locality of the pain, the extent, the degree of pressure necessary to elicit the pain, and whether it is a pain of increasing severity, the presence or absence of muscle rigidity or spasm, noting particularly its presence or absence in the hypogastric region and in the right iliac fossa. (d) Percussion; the character of the note in the front of the abdomen and in the flanks. A flat note in the flanks may be present, due to exudate, within twenty hours of the perforation. (e) The liver flatness; note specifically every third hour after the onset of the symptoms the extent in the middle, nipple and mid-axillary lines. Remember that obliteration may occur in a flat as well as in a distended abdomen. Rapid obliteration in a flat or not much distended abdomen is a valuable sign. (f) Auscultation; note the presence or absence of the signs of peristalsis. (g) Examination of the rectum, whether there is tenderness or any fullness between the rectum and the bladder. (h) The stools; the character, frequency and the presence of blood or sloughs. (i) The urine, whether pain on micturition, frequency, etc.

3. General condition of the patient. (a) Facies; any change in expression, the presence of a risus sardonicus, marked or slight, the onset of pallor or of sweating, and the signs of collapse, as in cold hands, cold feet, and slight dusky suffusion of the face. (b) The pulse, whether a sudden change in rate and force; the very rapid running, thready pulse may not be present for twenty-four hours after the perforation. (c) The temparature, whether a sudden drop has occurred or a sudden rise. (d) Respiration; a sudden increase, which is not infrequent; whether shallow and sighing. (e) Hiccough; usually a late symptom after peritonitis is established. (f) Vomiting, whether with onset of pain; it also is usually a late feature and associated with peritonitis.

4. The Blood-count. The constant leukopenia in typhoid fever must be remembered. Usually there is a rise in leucocytes with perforation. Also note the condition of the red-blood corpuscles and the hemoglobin. A decided drop may suggest hemorrhage.

Sudden pain, increasing in intensity and recurring in paroxysms, is perhaps the most constant symptom of perforation. With an increase of pulse-rate, distention of the abdomen, increasing pain on pressure, and a rise in the leucocytes the diagnosis is rendered probable.

In a doubtful case the patient should be given the benefit of the doubt, and operation should be urged.

* * *

A Method of Fixation for Loose Kidneys. Morris. *Medical Record*, Feb. 23, 1901.

The author first discusses briefly some of the various methods for fixing loose kidneys, and then, describes one which he has been using for about two years. He lays no claim to originality, but cannot recall the author to whom he is obliged for the suggestion.

"In this operation, a flap of capsule, including the larger part of the mesial surface of the kidney, is incised with a scalpel, and stripped up from the parenchyma remaining attached at the convex border of the kidney. The flap of capsule is drawn through a slit in the psoas muscle or in the quadratus muscle, indifferently, as one chooses, and is there sutured in place. This brings bare parenchyma in contact with the psoas or quadratus fascia, where it forms a firm connective tissue attachment. The operation certainly avoids the necessity for passing sutures through the parenchyma of the kidney, and I have had no reports of recurrence of loose kidney up to the present time."

* * *

The Present Status of the Surgical Treatment of Gastric Ulcer. Robson. *Brit. Med. Jour.*, Feb. 21, 1901.

In the twenty years ending six months ago only 188 cases of gastric ulcer had been treated surgically, with a mortality of 16.4 per cent. During the past six months the author believes that double that number have been treated by operation, and with markedly decreased mortality.

Robson's record shows a mortality of less than 5 per cent. The surgical treatment of intractable or relapsing gastric ulcer is in the greater number of cases the only satisfactory method, and operation should be resorted to at a much earlier period than has hitherto been the custom, and always before the patients are so reduced by pain and starvation, or the supervention of serious complications, that their weakened condition renders any operation dangerous.

Gastro-enterostomy, of all operations, is the one to be relied on in the treatment of chronic ulcer. The posterior operation is preferable. It can be performed in from twenty minutes to a half-

hour. The junction of the stomach and the first part of the jejunum being affected around a decalcified bone bobbin, just two continuous sutures being used.

Excision of the ulcer is, as a rule, unnecessary. Pyloroplasty is apt to be followed at a later period by recurring stenosis.

Pylorectomy is an unnecessarily severe operation for simple ulcer, and presents no advantages over gastro-enterostomy.

Pylorodiosis, which consists in stretching the pyloric sphincter, is very dangerous, and also apt to be followed by recurrence.

Complications.—Perforation is one of the most serious complications, and occurs in about 15 per cent. of all cases of ulcer of the stomach. Occasionally recovery from this accident has occurred when the stomach was empty at the time. Statistics clearly prove that operation for perforation of gastric ulcer, if undertaken within a few hours of the accident, is very hopeful, but that death occurs in more than half the cases when operated on after twenty-four hours.

Hemorrhage occurs in 80 per cent. of all cases. Cicatricial contraction of the pylorus is also a frequent complication.

Hour-glass contraction of the stomach occasionally occurs when the ulcer is situated in the middle of the organ.

* * *

A PLEA FOR EARLY NAKED EYE DIAGNOSIS AND REMOVAL OF THE ENTIRE ORGAN WITH THE NEIGHBORING AREA OF POSSIBLE LYMPHATIC INFECTION IN CANCER OF THE LARYNX. Mackenzie. *Johns Hopkins Hospital Bulletin.*

In the present state of our knowledge there are three principal methods of diagnosis in laryngeal cancer: the naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena; thyrotomy; and, lastly, microscopic examination of excised tissue.

Every resource and refinement of clinical diagnosis should be resorted to before an appeal to the microscope is made. The trained surgeon of today discriminates with marvelous accuracy (with the naked eye) between the different varieties of benign and malignant growths, and the laryngologist should cultivate a like amount of skill in the diagnosis of laryngeal tumors.

The author violently opposes the removal of a portion of the tumor for microscopic diagnosis unless everything is fully prepared to do a complete and extensive excision of the tumor and lymphatic glands of the neck, provided the piece removed proves malignancy.

Even thyrotomy often fails to define with absolute accuracy the whole area covered by the morbid process.

Whatever operation be done it should be borne in mind that we are dealing with cancer—with an infectious process. Early total extirpation of the entire organ with its adjacent lymphatics and glands, whether the latter be apparently diseased or not, is the only possible safeguard against local recurrence or metastasis.

Correspondence.

SPANISH HOSPITALS.

A Letter from Dr. W. H. Bispham, *Assistant Surgeon, U. S. A., Havana.*

The Spanish hospital, as seen in Havana, is as different from ours as it could possibly be. The buildings, attendants and system are all different, and are very peculiar to the eyes of physicians educated in the United States. Some of their ideas are not at all what we were taught to think best, but some could be adopted in our own country with good results. In the first place, the Spaniards have a good tendency to combine into societies for their mutual protection, and as a usual thing every man of that race whom you meet belongs to these bodies. Each association here in Havana has its own hospital, where the sick among its members are sent and where the attendance, medicine, etc., are all free. These hospitals are mostly well situated in the higher parts of the city, usually in the suburbs. All but one are built on the pavilion plan, and are handsomely situated in beautiful grounds. The buildings are of the heavy stone construction so popular in Cuba, and are consequently cool and airy.

The administration building is usually very well fitted up, and the quarters for the staff are very comfortable. There are no wards like those in our large hospitals, but each building is divided up into small rooms on each side of a hall down the middle. These rooms are comfortably furnished for two patients each, and have the greatest abundance of fresh air and sunshine. This idea, I think, could be used to advantage in our own large institutions, and many of the poorer people would be glad to pay a few dollars, say about five, for the privilege of a private room. The rooms are not as clean as they might be, and have to my mind a little too much furniture in them. At the end of the corridors are the kitchens, bathrooms and closets, all usually kept quite clean. The closets are of the flush-tank variety, and are usually connected with a sewer. One thing that is omitted in a number of the hospitals is hot water in the bathrooms.

Besides these wards, there is usually a building set apart for infectious and contagious diseases, but the isolation is not thorough, for communication with the patients is not restricted, and in a number of places all diseases are placed in the same rooms, without subsequent disinfection.

Insane patients are also treated in these hospitals, and, according to our ideas, the accommodations for them are not at all conducive to improving their mental condition. Bare cells are provided, without sufficient light or ventilation, and no especial treatment seems to be attempted. One is reminded more of a prison than anything else.

With the exception of one institution only, their operating-rooms are much inferior to ours. They are often combined consultation and operating rooms, and perfect cleanliness is evidently not aimed at. Their tables and other paraphernalia are poor, though their instruments are good. There is no attempt at the sterilization that is practiced in the States; capital operations are performed without instruments or dressings being properly sterilized, and such things are often handled with dirty

hands. The part of the body to be operated on is not prepared beforehand, as it should be, and after the patient is placed on the table sterile sheets or towels are not thought of. In spite of their poor technic a number of the surgeons here do excellent work.

In all of these hospitals the nursing is done by men employed in the same way as our hospital servants, and never with any regard to their abilities in that direction. These men are mostly thoroughly incapable, and unfitted for the responsible position they hold. The importance of good nursing, which is so emphasized in modern medicine, is not appreciated here, and a nurse is only a person to remove bedpans, clean the rooms, etc. The interne in charge of the ward makes his rounds several times a day, but there is no one with expert knowledge always on duty to watch the patients carefully and perceive any untoward symptoms. In consequence of this the patients are neglected. No intelligent record of temperature, pulse, etc., is made, and in most hospitals the chart is not used at all. There is no intelligent preparation of diets by trained assistants. This lack of proper nursing is the weakest part of their hospital system, and as yet they have not grasped the importance of such an adjunct to their work. This is deplorable in the extreme, and until properly-trained nurses are employed their work will not be up to the standard.

When the Americans first arrived in Havana, the city hospitals, which were then open for the reception of patients, were in a deplorable condition. No money had been appropriated for some months for their maintenance, and no effort was made to keep them in even a passable condition. The buildings used were in bad repair, and the establishments, taken as a whole, presented an appearance of neglect. The wards were dirty and neglected-looking. The beds were covered with dirty linen, and in most of them there were no facilities for bathing the patients. Flush closets were unknown, and the privies were extremely filthy. The kitchens were fairly equipped, but the food prepared was not at all suitable for the sick. The supplying and preparation of the food was given out by contract, and the contractor did as little as possible. Everything was of poor character, and adulterated articles were often used. No such thing as a diet kitchen was attempted, and in only one hospital, Mercedes, were diets prepared properly. In that hospital such work was in the hands of the Sisters of Charity.

The operating-rooms and laboratories were very poorly equipped, and most of the articles used were very inferior. The operating-rooms were small, and the light was extremely limited. There were no conveniences whatever for the sterilization of instruments, and the surgeon often had to bring his own instruments with him. In the Mercedes Hospital the room was so small that only a limited number of assistants could be present at an operation. The laboratories had practically no equipment whatever, and the bacteriologist of the hospital staff could never attempt any work unless he provided the apparatus. The dispensaries were fortunately well kept, and competent pharmacists were in charge, though the supply of drugs was limited. All washing was done

by hand, which was, of course, slow and expensive, and so little money was allowed that the bedclothing was not as clean as it should be.

In these hospitals the ward system as seen in the United States is used, but there seems to be no intelligent management. Many more patients are accommodated in each ward than is proper. This crowded condition of the hospitals is seemingly a Spanish failing, for in no place that I have seen as yet was proper allowance made for space for each patient or the general ventilation of the wards. Strange to say, even the most enlightened physicians cannot grasp that important part of hospital management. In no place have I seen careful isolation of contagious and infectious cases, though most hospitals have rooms set apart for that purpose. In these rooms all such cases are put, and you will often find smallpox alongside of diphtheria, erysipelas with yellow fever, etc., and usually one or two attendants attend to all collectively. There is, of course, abundant opportunity for the infection, whatever its nature, to spread. As in the society hospitals, there were no nurses to take charge of the patients during the Spanish *regimé*, though Sisters of Charity were employed in the big Mercedes Hospital. The neglect of proper nursing was even more marked in Las Angelas Hospital than in any other that I saw. There the poor patients had to depend entirely upon the services of untrained attendants, of whom there was one to each ward of thirty patients, and the occasional visits of an interne for the purpose of administering medicines or taking temperatures. A very sick patient usually had to take care of himself or go without any attention at all. This deplorable state of affairs caused much suffering, and many people would not go to the hospitals under any circumstances.

Very few women were ever seen in these institutions at any time on account of the dread of the place. In passing, I must say that these conditions were due in great part to the iniquitous management of the Spaniards, and not to the staffs of the different hospitals, who did the best they could with the small means at their disposal. They worked hard and faithfully with what little public money was allowed and donations from private individuals, and deserve a great deal of credit for it.

When the American government took control of affairs in the islands the hospitals were among the first things to receive attention. The buildings of the city hospitals were thoroughly repaired and renovated, and one hospital, Las Angelas, was abandoned altogether. In all of these buildings sanitary plumbing was installed and new sewers laid. The proper instruments, sufficient linen, etc., were purchased, and altogether these institutions were thoroughly remodeled. Among other important changes was the organizing of a training school for nurses at two of the hospitals, both of which are under the superintendence of American trained nurses. These schools have progressed finely, and before long the Havana hospitals will be provided with as good nurses as any hospital in this country.

With this short article I desire to show the profession the Spanish hospitals as they existed in Cuba before the American occupation, and also to show what a struggle has been made to bring them up to the standard.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MONDAY, FEBRUARY 15, 1901.

In the absence of the president the meeting was called to order by Dr. Osler.

Dr. Futcher: "Case of Diabetes Insipidus."

The patient was a gentleman thirty-five years of age, who had been employed in the Navy Department at Washington. His trouble began during the Spanish-American war, and manifested itself first by severe headaches and intense pains in the lower extremities. He continued at work until unable to keep up his usual amount of labor, and then left Tampa, where he had been stationed temporarily, and returned to Washington. He gradually became weaker, developed an intense thirst, and noticed that he was passing large amounts of urine.

When admitted to the hospital his symptoms were intense thirst, marked polyuria, pains throughout the body, and intense headache, particularly on the left side. There was evident hyperesthesia, as shown by pain produced by the slightest touch on the skull or by traction on the hair. His knee-jerks were decidedly exaggerated. Examination of the eye-grounds showed a slight hyperemia of the disc of the right eye. The urine had a specific gravity of 1.003, no sugar or albumen, and amounted to five liters in twenty-four hours. He was given increasing doses of potassium iodide, and improved rapidly, so that within one month he regained nineteen pounds in weight out of the thirty he had previously lost. He became able to walk considerable distances without fatigue, his headaches disappeared, his optic nerve cleared up completely, and he was able to sleep well at nights.

Dr. Futcher called attention to the exaggerated knee-jerk, and said that though most of the text-books state that the knee-jerk is lost in this disease, all of the cases observed at the Hopkins Hospital have shown it to be exaggerated.

Another interesting feature of the case was found through careful measurements of the amount of liquids ingested and the amount of urine excreted throughout the whole course of his stay in the hospital. The amount of excretion almost constantly exceeded the amount of intake. The most plausible explanation of this seemed to be that such patients absorb moisture from the atmosphere. Reference was made to the work of Dickinson, wherein, by careful weighing of the patient between meals, he was able to demonstrate repeatedly that one such patient gained as much as nineteen ounces weight in five hours without taking either food or water. The patient Dr. Futcher exhibited had gained nineteen pounds in one month, despite the fact that during all that time the amount of urine passed exceeded the amount of liquid ingested, even allowing for the amount of water contained in his solid foods.

Dr. Thomas reported a "Case of Chorea, with Embolism of the Central Retinal Artery."

The patient was a young girl of sixteen, with a good family history, who about two weeks before Christmas had developed choreic movements of

the right arm and leg, and, about the same time, complained of loss of vision in the left eye. She presented herself at the dispensary January 31 on account of her chorea, and at first said nothing about loss of sight. Her mother had thought this was only a notion of the girl's, and even when she did mention it, monocular blindness in a girl of sixteen is so unusual that it was supposed to point to a diagnosis of hysteria. Dr. Thomas examined the eye, however, ophthalmoscopically, and discovered the condition of embolism of the central artery. An examination of the heart made by Dr. Jacobs disclosed the fact that it was slightly dilated, and presented a systolic murmur at the apex.

A review of the literature showed that only six cases of embolism of the central retinal artery with chorea have been reported. Eye complications in this disease are rather unusual; the eye never takes part in the spasmodic movements, and only occasionally does neuritis occur.

The case naturally brought up a discussion of the old theory of embolism as the cause of chorea, a theory which was once widely held and supported by Hughlings Jackson and others, who thought that inasmuch as chorea was so constantly associated with rheumatism, and the latter with endocarditis, that the chorea always followed heart lesions, and was due to embolism in the brain. Its localization was supposed to be in the corpus striatum. In many cases of chorea, however, heart lesion could not be determined; in more there was no history of rheumatism, and the embolism was not found at autopsy. The present view of the cause of chorea is a modification of the old theory. In "Nothnagel's Handbuch" it is spoken of as a meta-rheumatic disease that follows rheumatism as postdiphtheritic paralysis follows diphtheria; that it is the action of some unknown toxine on the brain itself.

Dr. Reik exhibited "A Water-Color Sketch of the Ophthalmoscopic Appearances in This Case."

The central retinal artery as it entered upon the disc was seen as a very fine red line bordered by white lines for a short distance from the disc. The red was the narrowed blood column, and the white lines the vessel walls which ordinarily cannot be seen. The inferior nasal branch of the artery was lost entirely beyond the disc margin. Some of the arteries showed a larger caliber towards the periphery than near the disc. This was thought to be possibly due to anastomosis with the long anterior ciliary arteries. The optic nerve was markedly atrophied, and the macula, which appeared as a deep-red spot, was surrounded by a fluffy-white area of retinal degeneration. The eye was absolutely blind, and pressure on the ball failed to produce either arterial or venous pulsation.

Dr. Osler, in discussing the case, remarked that it is surprising that embolism does not occur more frequently in chorea when we remember that there is no other disease with which endocarditis is so constantly associated. Some years ago he had carefully reviewed seventy-three autopsy reports on individuals who had had chorea, and in sixty-seven he found endocarditis without embolism. In only one case out of five in his own experience had there been any appearance of embolism, and that was located in the corpus striatum.

Dr. Young reported a number of "Surgical Cases." The first was an endothelioma of the kidney. The patient, fifty-four years of age, com-

plained of bladder trouble, which began with an attack of sharp pain in the right loin, and radiating over the abdomen and towards the end of the penis. This was accompanied by the presence of blood in the urine. Such attacks were repeated several times, the pain being very severe, and the loss of blood sometimes being great. The hematuria would continue for some time after the pain had disappeared. The origin of the trouble was very obscure at first, but when seen in one of the attacks and examined by the irrigation cystoscope it was possible to see the blood flowing from the right ureter, while clear urine came from the left.

At operation the kidney was found to be several times the normal size and closely adherent to the vertebral column and all the surrounding tissues. In the upper end of the tumor was a large cyst containing a grumous fluid, and at the lower end was a dark-blue mass closely adherent to the vein, which proved to be a dilated renal vein containing a tumor growth that could be traced up to connect at the upper end of the kidney with the rest of the tumor tissue. It was an endothelioma, originating in the veins. There were no metastases, so far as could be made out, and the patient made a good recovery.

Dr. Young then exhibited several specimens from prostatectomy cases, the most interesting feature of which was the consideration of the size of the growths as related to the degree of trouble they had caused. The position of the enlargement in the prostate seems to have more to do with the amount of trouble produced than the size of the tumor does.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD JANUARY 4, 1901.

THE meeting was called to order by the president, Dr. W. J. Todd.

Dr. E. J. Bernstein: "Exhibition of Cases."

RETINITIS PROLIFERANS.—Up to four months ago this boy had perfect vision in each eye. He was preparing a lesson for school, when suddenly the sight of the right eye became blurred. Four or five days later when I saw him the right eye was divergent, and its vision reduced to simple light perception. The other eye was still in perfect condition. In making an ophthalmoscopic examination I saw, coming out from the optic disc, a peculiar membrane, on which I could trace a blood-vessel, and the idea struck me that it was a persistent hyaloid artery. In the other eye I found exactly the same condition, and taking the boy to another oculist for consultation, he agreed with me that it was a case of persistent hyaloid artery. I should say, however, that my friend was under the disadvantage of having seen the case very hurriedly, and I found later that we were both mistaken.

There are only about thirty-five cases of this affection recorded, and it is very singular that nearly all have occurred in very young persons, and nearly always after some form of trauma or a hemorrhage into the eye. Some cases have been supposed to occur after symptoms that resembled those of albuminuric retinitis. Such a case, which afterwards developed

into a distinct form of retinitis proliferans, is reported in the July number of the *Centralblatt für Augenheilkunde*. The disease has been recognized since 1864, when Mackenzie first described a case. I have a very beautiful picture here of a case that was seen by Dr. De Schweinitz.

A curious thing about these cases is that the membrane, when first forming, nearly always starts about the optic disc. Michel says it is nearly always due to diabetes, or to lues hereditary, or acquired. Others have claimed that it occurs idiopathically, or as the result of traumatism. The membrane formation is always accompanied by the production of new vessels, the rupture of which leads to frequent hemorrhages into the eye. The hemorrhagic condition can be seen in this boy's left eye.

The ages of the patients in the reported cases range from eight to fifty-two years, but eighteen of the thirty-five cases were between fifteen and twenty years old. Thirty of these cases occurred in males and five in females.

Weeks had the good fortune to examine a recent case, and shows in his very interesting report the manner in which the new-formed membrane appears and the kind of cells that compose it. He believes it is due to some interference with the circulation that results in a fibrous degeneration of the retina and walls of the arteries.

Mastoid Operation for Chronic Suppurative Otitis Media.—This boy had a great number of polyps in his ear that continuously reformed after removal, and he always had a discharge of foul-smelling pus. His hearing was reduced to loud sounds when spoken close to the ear. Since the operation, which was performed three weeks ago, he hears very much better.

I performed the radical operation, closing up the mastoid wound and making flaps from the cartilaginous wall. His temperature never rose above 99.4°, and that only on the day of the first dressing. He can now hear whispered sounds at a distance of two meters.

This operation is performed for the cure of persistent otorrheas which do not yield after five or six months of conscientious treatment. I would not go as far as one gentleman with whom I spoke on the subject, who said that whenever he had polyps to deal with he would rather do a mastoid operation than to simply remove the polyps.

Dr. W. T. Watson: "Exhibition of Cases."

Papilloma of the Larynx.—This little patient, four and one-half years old, has "suffered many things at the hands of many physicians." His life has probably been saved four times through surgical procedures. I saw him first when an infant of nine months. He had then a history of ailing for three months, whining, refusing nourishment, and sleeping very little. He had been taken to the Johns Hopkins Hospital Dispensary, where his case was diagnosed as one of meningitis. Believing that he was about to die, his mother had his photograph taken, a copy of which will give you an idea of his debilitated condition at that time.

Noticing that his usual attitude was that shown in the picture, with his left ear resting upon his hands, I sent him to Dr. Reik, who found an inflammatory condition of the left tympanic membrane, and performed a

paracentesis. That night the baby slept well, and the following day it commenced taking nourishment, and from that time went on to complete recovery. The mother thought the change was brought about by the fresh air which the baby received on its trip to the doctor's office, although it had received quite as much air on its former visits to the hospital.

In November, 1898, when a little over two years of age, and a plump and hearty boy, he was taken suddenly ill with vomiting and high fever. The vomiting continued from Sunday noon until the following Tuesday morning, and as he was then vomiting fecal matter, he was taken to the Hopkins Hospital. Preparatory to operation for intestinal obstruction, he was given large hypodermic injections of normal salt solution. His pulse rallied under this treatment, and by the time he was ready for oper-

ation the necessity for it had vanished. He stopped vomiting, took nourishment and went on to recovery.

When about twenty months old his voice became husky, and ever afterward his crying and laughing could not be heard from one room to another. He had occasional attacks of dyspnea, lasting at times all night, but seldom had any trouble in the daytime. In March, 1899, when he was two years and eight months old, I examined the vestibule of the larynx with my index finger, and discovered what I thought was a small papilloma. About six weeks later I was called to see him about midnight; found him suffering from great dyspnea, which necessitated immediate intubation. A large quantity of mucus was coughed up, and the child went to sleep. During the intubation a piece of the papilloma was coughed up, and I have placed a section of this under the microscope for your exami-

nation. It was evident that the child had at the time an acute catarrhal condition of the larynx in addition to his papilloma. Fourteen days later I removed the tube, but his condition was such that it had to be reinserted at once. During this operation I must have wounded the tissues, for he developed considerable temperature (103°) the next day; the tissues over the thyroid cartilage became red and swollen, and finally an abscess in the median line had to be opened. The tube was again removed on June 2, but was immediately returned. Four hours later, however, the tube was coughed out and never returned.

The child did well for awhile, but the dyspnea gradually recurred, and about a month later I sent him to Dr. Cushing, who did a tracheotomy. The canula, which he inserted about a year and one-half ago, the child still wears. On two occasions I have, under chloroform, curetted his larynx with my finger and brought away small pieces of the warty growth. I had not seen him for six or eight months until New Year's day, when I found him much improved. When the finger is placed over the opening in the canula he can breathe fairly well through his mouth, and his father tells me that when he wishes to emphasize what he has to say he will occasionally put his finger over the opening himself.

Nephritis in a Young Girl.—This girl of sixteen years was, as a child, exceptionally free from disease, one attack of measules at four and an urticarial rash following vaccination at six constituting her complete inventory.

About three years ago, when treating her for continuous headaches, I was led to examine her urine, and discovered the presence of a large amount of albumen, but no casts. I ordered her from school, and advised plenty of fresh air and milk. For medicine, I gave her Basham's mixture, and when she tired of this, ordered Blaud's pills, which she has taken almost continuously ever since. Her symptoms disappeared shortly, and but for the occasional examination of the urine, which always contained albumen, no one would have suspected that she had any trouble. If, however, she were allowed to stop taking Blaud's pills, or were put upon the organic preparations of iron, her headaches promptly returned. Her hemoglobin has always been subnormal, and is now about 85 per cent.

On the 6th of July, 1899, she complained of acute abdominal pain, which was followed the next day by an attack of dystentery, and on the 8th I saw her and diagnosed the trouble as appendicitis. She was operated upon by Dr. Cushing the following day, and the wound healed nicely, but the dysentery remained a serious complication for about ten days.

Just prior to operation the amount of albumen in the urine was greatly increased, but during convalescence it became very much less. About a year and one-half ago her menses made their appearance, and have continued regularly ever since. This last fall, for the first time, her legs became edematous, and they have so continued up to the present. Her face is also more or less edematous, and on one occasion her neck was so swollen as to make swallowing troublesome.

During the three years this malady has existed she has always slept well, possessed a good appetite, had only one or two attacks of nausea,

has been bright and cheerful, and has thoroughly enjoyed life. Her being out tonight is no exception to the rule, for she goes out to a friend's nearly every evening, returning home about 10 o'clock. Dr. Reik has made an ophthalmoscopic examination of her eyes, and finds no evidence of retinal changes. Her kidneys are both palpable, the right one at the level of the umbilicus, and the left one just below the costal margin.

Dr. H. O. Reik: Dr. Watson's first case affords a very good illustration of the necessity for examining the ears of infants with obscure febrile troubles. When Dr. Watson informed me that he would speak of this case tonight I looked up the records of my examination, and found the case history to be as follows: The child was brought to my office April 25, 1897, and the mother stated that she had noticed about three months previously that the child would throw his head to one side, and hold it so even while asleep, and that when awake he would hold his hand almost constantly to the side of his head. This action had been especially noticeable during the three weeks previous to this visit. He did not sleep more than a half-hour consecutively day or night. There was no stomach or bowel complaint, no vomiting, and no evidence of paralysis. The right ear was normal, but the left showed a deeply-inflamed tympanic membrane, with marked bulging in the lower anterior quadrant, and the apex of this bulging area was of a yellowish color. The membrane was incised at this point, and a free hemorrhage followed the escape of a few drops of pus. On the following day the mother reported that the child had slept all night, the first time for many weeks, and appeared to be much brighter.

It seems rather strange that an examination of the ear was not made earlier in this case, especially in view of the fact that the child continually intimated that the ear was the seat of trouble. I do not mean to say that we should depend upon such patients giving leading information, for it is well known that many infants suffer with acute otitis without at any time holding their hands to their ears; still when such a symptom is present it should surely emphasize the necessity for an examination.

That many of these cases should simulate meningitis is easily explained. It is to be remembered that at birth the tympanic membrane really forms a part of the base of the skull, and that often in early childhood an open fissure, the squamo-petrosal, remains in the roof of the tympanum, through which the dura mater may come in contact with the mucous membrane lining the middle ear.

Dr. John R. Winslow: These cases of papilloma in children are very puzzling and very unsatisfactory. They are very difficult to remove, and, being removed, it is exceedingly difficult, under any plan of treatment, to prevent them from recurring. They are usually of multiple variety, very diffuse, and recur in spite of any treatment we follow out. Being given a case of papilloma in a young child, we should first exhaust every means of attempting its removal through the natural orifice, and, failing in this, we are governed entirely by the urgency of the symptoms. If urgent, a tracheotomy should be performed at once, but if not, we should endeavor to postpone the treatment until the child is older and the removal made easier.

Dr. Watson has already taken the best and most efficient step towards the cure of this condition by putting the larynx at rest by a tracheotomy. In regard to further treatment, I think a spray of absolute alcohol, either alone or containing in solution 5 per cent. or 10 per cent. of salicylic acid, would be of a great aid both in destroying the growths and in preventing recurrence.

Dr. Watson: I would like to ask Dr. Winslow if he would regard the fact that this papilloma is made up of squamous epithelium as proving that it arises from the vocal cords. I ask the question for this reason: Two or three years ago I had a patient with a papilloma springing from the lower under-surface of the epiglottis, which turned out to be composed of one-half squamous and one-half columnar epithelium, and after referring to my anatomy I concluded that it sprung from just the juncture of the squamous and the columnar epithelial tissues. In this case I thought the nature of the cells might indicate that it came from the vocal cords.

Dr. Winslow: I should certainly take that to be the case from presumptive evidence. If it were possible to make a laryngoscopic examination the question might be determined more satisfactorily.

Dr. H. M. Thomas: "Report of an Operation for Jacksonian Epilepsy."

I wish to relate the details of a case that was operated on today at the Hopkins Hospital and which has been to me a most interesting case. The patient was a man of forty-five, who lived in the country, and, though complaining of epileptic attacks, had never consulted a physician. He had been a fairly healthy man, though never robust, had never used alcohol, did not smoke, and had never been exposed to venereal contagion. About fifteen years ago, in the spring and towards the close of his day's work in the field, he suddenly became unable to speak, and felt that his right hand was weak. He walked home, and for two or three days had great difficulty in speaking, and his hand felt numb. He continued his business of overseeing his farm. After several months he had a convulsion. He did consult a doctor at that time, was put upon bromides, and recovered. About a year following the first attack, while in the field, his right leg became paralyzed, and he had to be carried home. He recovered from the paralysis, but began to have peculiar attacks, at first infrequent, but within the last year several a week. They come on him in one of two ways—first, losing the power of speech, then a twitching in the right side of the face; the hand becomes numb, and then the paralysis passes up the arm and down the leg; or second, it may begin with a twitching in the face, and loss of speech comes later. He has learned that by taking chloroform he can cut the attacks short. If allowed to persist, and a severe attack comes on, it lasts from a minute to a minute and one-half without any loss of consciousness. He is very much upset by such an attack, and at times loses the knowledge of having a hand—that is, without looking at it, he would not know that he had a hand. After the attack is over he cannot speak or use the hand for about half an hour.

Upon examination his cerebral nerves are found to be normal, there is no headache or pain, and the only paralysis is an impaired movement in

the side of the face. He closes the eyes, lifts the eyebrows and both lids well, but cannot draw his mouth to the right side. The movements of the arm are perfect, though somewhat weak, and he has muscular atrophy of the first interosseous muscle. His grip is fairly strong, but not as strong as on the left side. He can use his right hand, but dislikes to do so, preferring to button his coat, etc., with his left hand. All the reflexes are exaggerated on both sides, but more so on the right.

The diagnosis of typical Jacksonian epilepsy is as clear as it could possibly be, and it seemed pretty clear that the lesion that produced it was a stationary one. We thought possibly there was some sort of vascular trouble that occurred fifteen years ago, but there was no etiologic factor in support of that explanation. Then we considered the chance that it might be a stationary growth in the brain, and this appealed to me particularly because of a case we had which had lasted eight years before there was much paralysis, and in which we did not find a growth at the operation, but discovered it later by microscopic examination. The position of the lesion seemed pretty clear also, as the most objective symptom was the paralysis of the mouth.

In the last work of localization Dr. Horsley did on the brain of the ourang-outang he found an area in the ascending frontal convolution which governs that movement exactly. It was easy then to imagine a lesion in that vicinity that would account for the other symptoms also. We told the patient the nature of the trouble and the possibilities of finding it by operation. He was anxious to have the operation performed, and it was done today by Dr. Finney.

He made a large bone flap, exposing an area that showed the fissure of Rolando and part of the ascending parietal convolution, and gave us the area above referred to as the center of the field. It required about twenty minutes to expose the brain, the bone being very thick, and, nothing being found on the dura, we slit it up, but the cortex was perfectly free, so far as we could see. The veins of the pia mater were a little congested, but that was all. I tried to stimulate the cortex by the faradic current, but failed, probably because the apparatus was not right, and partly because I was not willing to push the matter very far. He has recovered from the operation in so far as coming out of ether is concerned.

The case is interesting, because in my experience I have never seen or read of a case that presented a more typical picture. That there is a lesion there is absolutely certain, but I think now it is certain that it is subcortical. If so, it may be a lesion corresponding to the tumor found in the case reported in the *Journal of Experimental Medicine* for 1897, Vol. II. In that operation nothing was seen at all and nothing was found at autopsy, so we thought there had been a mistaken diagnosis, but microscopic examination revealed a neuroglioma in the motor cortex.

Just one other point I want to bring up, and that is that the muscular atrophy seen in this case is also present in the case we reported. Muscular atrophy of the character seen here does not occur usually with cerebral lesions, but it does occur at times, and seems to occur from some lesion

either in or near the pyramidal tract and causing an irritation of the tract without actual destruction.

I present this case as one of the illustrations of how very discouraging brain surgery is. We no longer operate for epilepsy as such, and the reason we operated here was that we believed there was a definite lesion that might be removed. It was only a chance, and that chance was not sufficient to do any good. I would not be surprised, however, if that patient goes along for a year without any convulsions. We often find that for some reason or other there is a cessation of convulsions after such an operation, possibly because of a change in the circulation. The last case of the kind I had operated upon has had no return of the trouble for nine months, and he thinks we are very unreasonable because we will not operate on his brain to remove his paralysis.

Dr. Randolph Winslow: Why not take out the center that governs this area?

Dr. Thomas: That has sometimes been done, but the trouble is that you leave a scar, and there is just as much reason to suppose that a scar will act as a focal lesion as that the original disease did.

Dr. A. L. Hodgdon: I think we are all very much indebted to Dr. Thomas for this report, as this is one of the forms of epilepsy that can be relieved, or even cured, if taken in its incipiency. The great trouble in these cases is that they are not taken early enough, and after awhile what is known as habit epilepsy results. We notice something similar to that in malarial paroxysms, where sometimes after the system is thoroughly rid of the organism we find the paroxysms or chills still continuing.

I would like to ask Dr. Thomas if that portion of the second frontal convolution, where the head center exists, was exposed at this operation to determine whether there was any lesion there, and again, whether it was considered that there might be any other lesion than a tumor present. I would like to know, too, if the attempt was made to stimulate the cortex with the galvanic current.

Dr. Robert Reuling: The case presents certain very interesting features, as Dr. Thomas has pointed out, and one of the main ones is the muscular atrophy. In a work recently published in Nothnagel's series one finds how very rare muscular atrophy is in connection with cerebral cases. Only sixteen cases have so far been reported, I believe.

Last year I had the pleasure of reporting to this Society a case that showed very marked muscular atrophy, with intracranial lesion, and the case was remarkable in that the atrophy was a very extreme one ten days after the onset of the disease. With this atrophy there was complete loss of sensation on the affected side. So far as I could tell from the course of the symptoms I came to the conclusion that the lesion was in the posterior third of the internal capsule. Physiologists have agreed now that this portion of the capsule contains the sensory fibers, while the anterior two-thirds contains the motor fibers, so that any lesion of the posterior third would cause a complete hemi-anesthesia, and it is just those cases with sensory disturbances that are associated with muscular atrophy. You remember that Dr. Thomas' case presented sensory disturb-

ances, but I believe his case is more subcortical, and does not involve the internal capsule itself.

Dr. Thomas: It is not easy to know, when looking at a brain exposed for operation, just what convolutions you have exposed. In this case we believed we had exposed the fissure of Rolando just at its edge and a space of about two inches beyond that. We also passed a blunt director around it until we could see the other side of the fissure of Sylvius. No lesion was noted anywhere. All the centers above and anterior to the ascending frontal are very indefinite, and most of the centers for the head are in the ascending frontal convolution.

I do not know any condition of the cortex that will respond to interrupted galvanism that will not respond to faradism. I used a strong faradic current—so strong that it was painful when applied to the tongue before the electrodes were sterilized. I would be glad to be informed about the galvanic stimulation of the cortex.

Dr. Hiram Woods: "A Case of Atrophic Entropion from Trachoma, with Operation."

I want to show two patients with rather interesting conditions. They are different stages of the same disease—trachoma. The first patient, a man, came to the hospital five or six weeks ago with a bad right eye. He stated that the eye had been painful for twelve days only. He does not speak English, but from his interpreter I understood that he had some eye trouble some years ago, and the appearance of the eye made that history rather important. He had a very edematous conjunctiva, some mucopurulent discharge, and on the conjunctival surface of the upper lid one could see typical granules of trachoma. The upper half of the cornea was vascular and extremely thick. It was hard to realize how all that could have occurred within the space of ten or twelve days. Below the vascular area there were two or three small corneal ulcers. He was treated on the theory that his trouble was an acute trachoma; the lids were kept clean with sterilized water, and a 10-grain solution of nitrate of silver was applied twice a day with the most gratifying results, so far as treatment is concerned. If it is a case of acute trachoma it will probably continue to improve and get well, but if it is simply a relapse of a chronic trachoma, as it appears to be clinically, he will probably not get much better than he is now.

Case 2.—This man came from West Virginia last September with a condition of cicatricial cornea and atrophied conjunctiva, especially of the lower lid. He had entropion of both upper lids and of the left lower lid, the lashes lying in contact with the cornea, and his vision was so reduced that he was barely able to move about. The first thing to be done was to try to get his lids into proper position, and under the influence of ether I performed upon both upper lids what is known as Green's operation. There are a number of these operations for entropion, but, all things considered, this one is the most satisfactory. For the lower lid, on account of the atrophic condition of the conjunctiva, I performed a different operation, one that I believe was suggested by Hotz. The results, as you see, have been very satisfactory. H. O. R.

Book Reviews.

THERAPEUTICS: PRINCIPLES AND PRACTICE. By H. C. Wood, M.D. Eleventh edition. Philadelphia and London: J. B. Lippincott Company. 1900.

In this, the eleventh edition of this popular work upon therapeutics, Dr. Wood has markedly changed the arrangement, so that "the treatise has been made to represent the contemporary knowledge of physiological therapeutics more clearly and satisfactorily than it ever did before." To attain this end minor discussions, descriptions, the effects of drugs on the lower animals and other matters of subsidiary importance have been put in small type. Discussions on matters of earlier interest, but no longer regarded as moot points, have been abridged or cut out, and a number of articles on the newer drugs and therapeutic measures have been added. The book is well written, extremely interesting, and the author's exhaustive physiological studies raise it to a scientific level above that of many text-books on therapeutics. B.

THE COST OF LIVING AS MODIFIED BY SANITARY SCIENCE. By Ellen H. Richards, Instructor in Sanitary Chemistry in the Massachusetts Institute of Technology. New York: John Wiley & Sons. 1900.

This excellent little book of 120 pages is especially addressed to persons of moderate means. Much has been written about the cost of existence to those who earn $400 or $500 a year. Mrs. Richards endeavors to advise those who must live on $1500 to $3000 a year, a very large class, as much in need of sound advice, and more capable of intelligently handling questions of domestic management than those of less earning power.

It is not a book of details, but covers the practical organization of a home very well in its four main chapters on the house, operating expenses, food, and clothing. The remainder of the book is divided into five chapters on standards of living, the service of sanitary science in increasing productive life, division of household expenditure between departments according to ideals, the emotional and intellectual life, and the organization of the household.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, etc.; and F. F. Burghard, M.D., M.S. (London), F.R.C.S., Teacher of Practical Surgery in King's College, London; Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, etc. In seven volumes. Vol. IV.—Treatment of the Surgical Affections of the Joints (including Excisions) and the Spine. Philadelphia and New York: Lea Bros. & Co. 1901.

We have noticed the three previous volumes of this work as they appeared, and now have the fourth before us for review. This volume treats

exclusively of conditions affecting the joints and the spinal column. In previous notices by us as well as by others the criticism has been made that many useful and accepted methods of treatment have not received any mention at all. In the preface to the present fasciculus the authors answer this complaint with the statement that "we would desire once more to reiterate the fact that the object we originally set before ourselves was to describe as fully as possible only those methods of treatment which have proved most efficient in our hands." It is, of course, quite legitimate for authors to present only those methods with which they are most familiar, but in a work of this kind, devoted to the treatment of surgical affections, a more comprehensive scheme would add to the value of the treatise.

Part IV is, like its predecessors, an epitome of the experience of the authors, with but scant reference to the work of others. It is on the whole a reliable guide to the beginner, but does not offer much that is new to one who has followed surgical work for some years. R. W.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other topics of interest to Students and Practitioners. Edited by Henry W. Cattell, A.M., M.D. Vol. IV. Tenth series. Philadelphia: J. B. Lippincott Company. 1901.

This volume brings the tenth series to a good conclusion. Among the nineteen articles one may mention as of especial interest Potain's article on "The Indications and Contraindications for the Use of Digitalis in Treating Heart Disease;" an article on "Mosquitotes and the Prophylaxis of Malaria," by Grassi; "Recent Advances in Diagnosis," by James J. Walsh, and the article on "The Rôle of the Blastomycetes or Ferments in Cancer," by Demetrius Roncali.

The volume concludes with a monograph of 100 pages entitled "The Etiology and Morbid Anatomy of Various Diseases."

Obstetric and Gynecologic Nursing. By E. P. Davis, A.M., M.D., Professor of Obstetrics in Jefferson Medical College and Philadelphia Polyclinic. 12mo, pp. 402, fully illustrated. Price $1.75 net. Philadelphia and London: W. B. Saunders & Co. 1901.

The first part of this book contains clear instructions concerning natural pregnancy and the care of women through labor and the puerperium, with the signs of the diseases and accidents which may occur during that period. The details of preparation for operation and the nurse's duties as assistant are fully described. The care of the child and the rules for recognizing the dangers which are incident to early infancy receive careful attention.

The second part of the book is devoted to gynecologic nursing, and here the same strict attention to detail is not observed, particularly with reference to aseptic technic. The book is well written, well illustrated and well printed.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*
HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, APRIL, 1901.

THE ORGANISM OF VACCINIA AND VARIOLA.

IN the *British Medical Journal* of February 23 appear two "Preliminary Notes" upon the specific agent of smallpox and vaccinia. The first is by M. Funck of Brussels, who promises to give at an early day a detailed report in proof of the following propositions:

"1. Vaccinia is not a microbic disease.

"2. It is caused by a protozoon easily found in all vaccine pustules, and in all active vaccine.

"3. The inoculation of this protozoon in a sterile emulsion reproduces in susceptible animals all the classical symptoms of vaccinia.

"4. This inoculation renders the animals refractory to subsequent inoculation with vaccine.

"5. The variolous pustule contains a protozoon morphologically similar to that in the vaccine.

"6. * * * Vaccinia is an attenuated form of variola. * * *"

The questions involved in the first two of these propositions have engaged the attention of many competent investigators, with no very noteworthy results, and one does not find hope of better success in Funck's brief communication.

He arrives at the conclusion that vaccinia is not a microbic disease in this wise: Having found that twenty samples of vaccine kept in sealed tubes in the dark for three months grew nothing on the ordinary media, but were still capable of producing characteristic vaccine pustules, it follows, he says, that "vaccine freed from microbes (aerobic and anaerobic) produces the specific pustules."

He describes the "sporidium vaccinale" at considerable length as occurring under three forms: 1st, a refracting form of a brilliant green color, spherical, with diameter of two to ten micromillimeters, and having slow movements; 2d, ovoid epidermic cells enclosing masses of spherical green bodies ("sporozoa") of smaller size; and 3d, raspberry-like bodies of considerable size, twenty to thirty-five micromillimeters in diameter, round or oval in shape; encysted spores.

These bodies were described in 1887 by Pfeiffer. Funck's method of studying this "sporidium" is to make a hanging drop of glycerinated vaccine and bouillon and place it in a warm, moist chamber. After half an hour the protozoa are said to become attached to the cover slip, the leucocytes and other elements falling toward the point of the drop, so that the protozoa may be conveniently observed.

The inoculation experiments were made with the spore-cysts, which Funck believes that he isolated in the following manner:

Vaccine was spread on ordinary agar plates and incubated for twenty-four hours. After that time he placed the plates under the microscope

and dug out the sporoblasts with a platinum needle hammered into spatula form. This spadeful of spores (and things) is made into an emulsion with a drop of bouillon and inoculated into a calf. "When the experiment is properly conducted" characteristic vaccine pustules follow in about six days.

The second preliminary note is from Monckton Copeman, who reported in 1896 some successful cultivations of the micro-organism of vaccinia in eggs. He now hints at a possible explanation of many failures in repeating these experiments. He believes that it is essential that the eggs used for this purpose should be fertilized, and that development of the embryo should begin during incubation.

Since 1898 he has employed the collodion-capsule method of Nocard and Roux. Bouillon capsules inoculated with glycerinated vaccine are placed in the peritoneal cavity of dogs or rabbits, where they remain for about fourteen days. Control capsules immersed in sterile bouillon in test tubes are incubated at the same time. If the collodion envelope remains unbroken, the contents of the capsule are found after removal to be free from leucocytes, though containing a trace of serum albumen. Film preparations stained with methylene-blue show numerous zooglea masses, made up apparently of spores, and these, Copeman believes, represent a resting stage of the specific microbe.

The contents of these capsules produce typical vaccinia in the calf, while the contents of the control capsules do not produce vaccinia in the calf.

When it is remembered that the specific agent of vaccinia can be passed through a filter which would surely retain such bodies as are described by Funck, one can hardly expect the cause of vaccinia to be found among the protozoa. The experiments of Copeman, on the other hand, are encouraging, and his full report will be awaited with much interest.

NOTIFICATION OF TUBERCULOSIS.

In Philadelphia tuberculosis now has a place in the list of notifiable diseases. This has come about through the influence chiefly of the Philadelphia County Medical Society, which recently devoted to the subject a special meeting, at which Dr. Herman Biggs was the chief speaker.

In Michigan the registration of tuberculosis has not been, so far, successful. It has been attempted without special legislation. The State Board of Health has authority to determine what diseases are infectious and dangerous to public health within the meaning of the notification law. Tuberculosis became notifiable by vote of the Board. Whether this vote was unanimous does not appear, but the attempt to enforce the notification of tuberculosis aroused such a storm of opposition on the part of medical men, and developed such discord in the State Board of Health, that Michigan came near losing one of the ablest public health officials in America.

In New York city the earlier operation of the law called forth loud and angry criticism. Physicians said that the activity of the Board of Health was injurious alike to the physician, the patient, and the public. Concealment of cases was resorted to, and falsification of death certificates necessarily followed, so that the apparent benefits of notification are regarded by some New York physicians with more than doubt.

In Philadelphia the notification is not to be followed by official intervention. It therefore happens that the opposition to the measure takes ground quite opposite to that of the objectors in New York. It is said in Philadelphia that if notification is not followed by any official act beyond registration no profit will ensue.

Certainly no violent hostility can be expected to assemble about a consideration of this sort, so that the experiment in Philadelphia will go on peacefully, and will perhaps encourage us to notify tuberculosis in Baltimore. The subject is well worth the consideration of the profession in this city, where the problem of restricting tuberculosis has not yet been fairly engaged. Notification is an essential step toward a hopeful campaign against the disease.

ONE REASON FOR VERIFICATION OF DEATHS.

THE chance of error in giving a death certificate without verifying the report of death has been before commented upon in these columns. When asked to certify the death of one of his patients the American physician complies at once, whether the death was witnessed by him or not, whether it was expected or unexpected, whether the information comes from a trustworthy person acquainted with the facts or from some one to whom both physician and patient were previously unknown. A London practitioner quite recently had an experience which illustrates the importance of systematic verification of reported deaths.

Mr. Gideon Marsh attended a medical student named Browning, at his lodging-house, for a period of eight days. The young man had acute nephritis, and on the seventh and eighth days of his illness, uremia seemed impending. At 10 o'clock at night (February 5) he was so stupid that it was difficult to get replies to questions. Twelve hours later (February 6) a man, claiming to be the brother of Browning, called upon Mr. Marsh, and, saying that Browning had died in a fit at 4 o'clock in the morning, asked for a certificate of death. The certificate was given.

A little later the landlady of the lodging-house called to say that the "brother" had not asked anyone to "lay out" the body, but had locked it up and gone away. Mr. Marsh thereupon visited the house, and being unwilling to wait for the return of the "brother," had the locked door opened. He discovered that the door had been sealed, and in the bed he found a dummy corpse.

The police department was notified, and a detective, with Mr. Marsh, made a search of the apartment. While this was going on the "brother" appeared, and confessed that he had gotten out of bed soon after the doctor's last visit, had shaved himself and gone out, to return as the "brother," in which character he deceived both the doctor and landlady. His illness was genuine, but he had added albumen to the samples of urine. His motive was, he said, to induce his relatives to believe him dead. He was but recently out of prison. He had an insurance policy for $1000, but whether he intended to defraud the company or not does not appear. An insurance swindle of this sort would probably not be very difficult in America. A great conspiracy could hardly involve a step more perilous than this man's feat of obtaining in a personal interview, directly from the hand of his medical attendant, a certificate of his own death.

Medical Items.

Two health officers in Michigan are sick with smallpox.

Dr. L. McLane Tiffany is recovering from a serious attack of appendicitis.

The sum of $5000 has been appropriated by the aldermen of Louisville for free public baths.

Dr. Richard J. Dunglison died at his home in Philadelphia on March 5, aged sixty-seven.

Louisiana is to follow Pennsylvania in the establishment of tuberculosis camps in the pine woods of St. Tammany parish.

In Orange, N. J., the construction of an isolation hospital was stopped by a mob, which, after two attempts, destroyed the building.

Dr. George M. Fisher died at Denton on March 20 after a long illness. He was a graduate of the University of Maryland in 1862.

Dr. Alfred Stengel has resigned the editorship of the *American Journal of Medical Sciences*. Dr. Francis R. Packard is to succeed him.

An ordinance has been introduced into the city council of Baltimore providing for the erection of a municipal hospital for infectious diseases.

The *University Medical Magazine* has changed its title to the *University of Pennsylvania Medical Bulletin*, and in future will have no advertisements.

Dr. Edward A. Fessenden of Portland, Maine, swallowed two teaspoonfuls of 95 per cent. carbolic acid solution by mistake, and died in fifteen minutes.

Dr. Moritz W. Dreyer, a Brooklyn physician, filed a false death certificate in the case of Renze Talpopsky, who died of smallpox. Dreyer was fined $100.

A man in Chicago fell and broke five ribs. He was a Dowieite, and so he died. The coroner's jury said in their verdict that if he had received medical treatment he would very probably have recovered, and certainly have escaped much pain. The jury therefore recommended that a law should be enacted providing medical aid for all cases of accident or external violence.

It is said that a passenger on a train between Portland, Ore., and Spokane, Wash., went into labor and was delivered of twins. The elder, a boy, was born in Oregon; the younger, a daughter, arrived an hour later, and is a native of Washington.

Dr. Albert W. Clement died at Johns Hopkins Hospital on March 3. He was born in Massachusetts forty-two years ago, and studied in Paris and Vienna. He was one of the ablest veterinarians in this country. Baltimore had been his home for about twelve years.

The Indiana legislature has passed a bill requiring all persons who practice the healing art to pass State examinations and obtain license. This bill will oblige Christian Scientists and all sorts of healers to comply with the conditions imposed upon regular medical men.

The municipality of Lyons has set aside an open space for a memorial monument to Leopold Ollier. The medical profession will erect the monument. The American committee hope to contribute $1000 to the fund. Dr. Howard A. Kelly is a member of the American committee.

A memorial meeting to the late Dr. Samuel C. Busey will be held in Washington on April 8. The participating societies will be the Washington Academy of Sciences, the Medical Society of the District, the Anthropological Society, the Philosophical Society, and the Columbian Historical Society.

Dr. Fred P. Henry, honorary librarian to the College of Physicians of Philadelphia, gave an interesting address on "The Life and Writings of Valescus de Tarenta before the Book and Journal Club on March 20. He showed a copy of the Philonium and a copy of the Tractatus, which is said to be the first medical book ever printed.

Three representatives of the younger profession of Baltimore recently attended a smallpox matinee in a neighboring State. Their appearance created great enthusiasm. Variola received in a kimono of riotous design. Of the Maryland guests, one wore a storm coat and a searchlight, another was attired in white pajamas and a tomato can, the third was sweetly gowned in a nightshirt decorated with the Ardor of the Gorter. They escaped.

Dr. Edwin C. Baldwin of Baltimore died at Dover, N. J., on March 25, aged eighty-seven years.

Dr. Charles Edward Coates of Baltimore died at the home of his son in Abilene, Texas, on March 25, aged seventy-three years.

In December the commission purchased a lot on the corner of Columbia avenue and Callender alley, where the second bathhouse will be erected and opened to the public during the coming summer. The commission includes Eugene Levering, W. H. Morriss, Thos. M. Beadenkoff, Mary Sherwood, John S. Fulton, J. E. Gichner, George W. Corner, Jr.

Feces found in the bed of a murdered woman recently led to the identification of the murderer. The feces contained a number of oxyurides, and among six persons suspected oxyuris was found in the feces of but one. This man was accused by the other five, and it was said that he defecated on the bed. The case was reported by Lacassagne in *Arch. de l'anthropologie criminelle.*

It is said upon the authority of the *New York Herald* that Mrs. Augusta Stetson, the leader of the Christian Scientists in New York, and a "healer" whose practice is worth somewhere between $10,000 and $100,000 a year, is a pensioner of the United States, drawing $72 a month for "rheumatism and paralysis." She lives in the same house with her husband, a helpless invalid, and her mother, who is constantly attended by a trained nurse.

Considerable alarm is felt in the lower Eastern Shore counties on account of the prevalence of smallpox in Sussex county, Delaware. The disease must have existed there for some time under the guise of chicken-pox. Attention was first attracted to the error of the discovery of a case on an oystering craft in Cambridge harbor. This case was recognized by Drs. Goldsborough and Mace of Cambridge, and the diagnosis was confirmed by Drs. Fulton and Steele, health officials. This patient, a colored man, had left his vessel some two weeks earlier and gone to Seaford, Del., where he was married. He returned to Dorchester county, where he developed smallpox. At the same time his new-made bride in Seaford was attacked by "chicken-pox." These facts being communicated to the State health officials of Delaware, brought about an investigation at Seaford, which resulted in the discovery of some twenty or more cases of smallpox, all of them so mild that but two patients were confined to bed. The case at Cambridge was transferred to the Quarantine Hospital near Baltimore, and the Cambridge authorities set at once about providing against further spread of the infection. The public health officials of Delaware have been harshly criticised for their caution in deciding that the disease is smallpox. They were disgracefully timid, it is said. If the diagnosis had been perfectly clear and the action prompt they would no doubt have been as angrily charged with precipitate haste.

The first annual report of the Free Public Baths Commission of Baltimore has appeared. It gives a history of the inception and progress of the public-bath movement from 1893, when Rev. Thomas Beadenkoff, with a number of citizens, maintained a bathing shore at Canton. In 1894 the city made its first appropriation of $500, and at the suggestion of Mayor Latrobe a bath commission was created. Mr. Eugene Levering, Mr. W. H. Morriss and Dr. James Cary Thomas co-operated with Mr. Beadenkoff in operating their outdoor baths, one at Canton, one at Gwynn's Falls, and one at Winan's Cove. The commission began to urge upon the city the establishment of all-the-year baths in 1896, and in 1898 the co-operation of the Maryland Public Health Association was secured through the interest of Dr. Mary Sherwood and Dr. Louise Erich. In November of that year a public meeting at McCoy Hall was addressed on the subject by Mayor Josiah Quincy of Boston and Mr. F. B. Kirkbride of Philadelphia. Shortly after this Mr. Henry Walters became interested in the subject, and gave the commission $50,000 for the erection and equipment of two public bathhouses, the maintenance of the baths to be assumed by the city. The first of these baths, on South High street, was opened to the public on June 1. The attendance has been as follows:

	Bathers.	Laundry.
June	11,164	(not open)
July	10,910	65
August	10,796	70
September	6,664	76
October	3,534	107
November	2,422	97
December	2,771	151
Totals	48,261	566

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 5 BALTIMORE, MAY, 1901 Whole No. 996

PREGNANCY IN A DOUBLE UTERUS.

By L. M. Allen, M.D.,

Associate Professor of Obstetrics in the University of Maryland, Baltimore.

On November 17 I was asked by Dr. Hall of Baltimore county to see a patient, Mrs. B. of Lansdowne, who had been in labor for more than two days. The labor was not progressing on account of the presence of a tumor in the pelvis, which offered an obstruction. My obstetrical bag was procured and we proceeded to the home of the patient. The following notes were made at the bedside:

Patient very restless, tossing about the bed, suffering very much; anesthetic was necessary in order that an examination could be made. Chloroform was administered to the surgical degree.

Inspection: Medium-sized, well-nourished woman; exposure of abdomen showed a tumor, the size of a pregnancy at full term, extending very obliquely upward and to the right from left iliac fossa to the border of ribs on right side.

Abdominal palpation revealed the presence of a full-term fetus, of normal size, presenting breech, in the right sacro-iliac posterior position, the presenting part being in the false pelvis, pressing on left brim of true pelvis, head in fundus uteri; small amount of amniotic fluid.

Auscultation: Point of maximum intensity of fetal heart-sounds in right upper uterine quadrant, 4 cm. from umbilicus; number of beats to the minute 100, and strong; uterine bruit heard in right flank.

Vaginal examination: Vaginal orifice very small; cervix very high up, and not dilated sufficiently to admit the finger, but was thin, and above could be felt the buttock of the fetus pressing against the left pelvic brim. Not being satisfied with this examination, the finger was removed and a second one made. This examination revealed a cervix which was dilated to about 4 cm. in diameter, through which the membranes were protruding, and through the membranes the breech could be distinctly felt. It was at once recognized that there were present a double vagina and

double cervix. The two fingers, index and middle, were introduced, one in each vagina, and the septum, nearly a centimeter in thickness, pulled down and examined with the eye. The right cervix was dilated with the fingers, membranes ruptured, the right foot caught, wedge decomposed, and delivery effected comparatively easily. Child slightly asphyxiated, but soon revived; was well developed in every respect, and weighed eight pounds. After waiting one-half hour the placenta was delivered artificially; normal amount of blood lost.

Palpation of abdomen after placental delivery showed a small uterus on left side, turning obliquely to left side. The uterus did not contain any placenta or membranes.

This anomaly, in which the uterus, vagina and cervix are all double, and in the uterus a full-term fetus, is very rare, and for that reason worthy of mention.

The uterus didelphys, or, as it has also been named, "diductus," "duplex" or "separatus," exhibits the maximum degree of separation of the two laterally-placed halves which normally fuse into the single uterus. In these cases there are, as a rule, two single uteri lying side by side, each, however, possessing only one ovary tube and round ligament. The two uteri are seldom exactly equal in size, and one of them may be imperforate, a condition giving rise to hematometra at puberty. Not infrequently this uterine malformation is associated with deformities of neighboring parts, such as ectopia vesicae and atresia ani.

Among the causes which have been invoked to explain the want of union of the two mullerian ducts and the consequent formation of the uterus didelphys are distension of the allantois, absence of closure of the anterior abdominal wall, and the existence of adhesions between the rectum and bladder.

Clinical features: It has recently been noted that chlorotic girls are not infrequently the subjects of this type of anomaly, and probably chlorosis is to be regarded as a developmental morbid state. The menstrual functions may be variously affected by the presence of a didelphous or bicornate uterus. Menstruation may occur every fortnight, every month, or once in two months. In the first case the discharge comes from both uterine cavities each month, but there is not coincidence of dates, and therefore menstruation has a 14-day interval. In the second case there is either a simultaneous discharge from both wombs, or else the menstrual flow is from one cavity the one month and from the other the next. In the third instance, as it shown by a case reported by T. A. Emmet, there is a bimonthly flow from one-half, whilst, on the other side, there is an imperforate condition of the horn, vagina or hymen which prevents the appearance of a discharge.

Dysmenorrhea is often met with, and amenorrhea occasionally. Sterility is sometimes associated with the bicornate uterus; but, on the other hand, the patient is often fertile. Pregnancy may occur in one horn, and a menstrual discharge persist in the other—

a circumstance which possibly accounts for the continuance of menstruation during gestation, which has been occasionally noted. Decidual membranes may form in the empty side. Pregnancy may also occur in both horns simultaneously, or at different, but not at far distant, dates. In the latter case may be found the explanation of some of the anomalous instances of superfetation.

In rare cases a twin conception has taken place in one horn.

The uterus may abort, or labor may occur at the full term, when the empty horn may show contractions as well as the gravid one, and its os may also be open. Parturition may be normal; there may be a malpresentation; the recto-vesical band may cause delay in the passage of the fetal head, or there may be low implantation of the placenta and hemorrhage. When, as sometimes happens, the pregnant side is shut off by a septum, gestation becomes practically extrauterine, and has all the dangers associated therewith, such as uterine rupture.

Even in cases where there is not unilateral atresia, rupture of the uterus or of the septum between the horns may occur. According to the history gotten from the patient, the case above presented none of these clinical features except the breech presentation.

The cause of the ineffectual attempts at delivery was due to the oblique position of the uterus, which, instead of driving the fetus down through the pelvic cavity, thrust it against the brim on the left side.

RABIES AND THE PASTEUR PREVENTIVE TREATMENT IN GERMANY.

By John Ruhrah, M.D.,

Associate Professor of Diseases of Children, College of Physicians and Surgeons Baltimore.

GERMANY furnishes us with a most instructive chapter in the history of rabies and its treatment. For many years rabies was comparatively rare in the German Empire, but statistical studies show that it has lately been on an increase. The former victims of rabid animals either visited the Pasteur institutes of Paris, Vienna, Cracow, or even Budapest, or else were left to the possibility of getting the disease. In German scientific circles Pasteur's treatment, if not regarded with a certain amount of skepticism, was certainly not received with any great enthusiasm.

A study of the disease showed that the reports of rabid animals were as follows:

1886	438	1892	387
1887	423	1893	410
1888	397	1894	471
1889	410	1895	431
1890	590	1896	724
1891	445		

From January 1, 1891, to December 31, 1897, that is, during seven years, in Prussia 648 people had been bitten by rabid or suspected animals, of whom twenty-five died; that is to say, 3.9 per cent. The following table gives the number according to the years:

	Bitten.	Fatal cases.	Percentage.
1891	78	4	5.1
1892	72	4	5.6
1893	60	4	6.7
1894	92	2	2.2
1895	66	2	3.3
1896	128	4	3.1
1897	152	5	3.3
1898	263	9	3.4
1899	287	3	1.05
	1207	37	3.07

The greatest number of these cases occurred in the eastern parts of Prussia which border upon Russia and Austria. It is supposed that the increase of the disease among animals comes from dogs or other animals which come from neighboring countries where the police regulations and supervision are less strict.

As regards the season of the year at which the cases occur, it is found that in the winter months there are but few cases reported, while the highest number is reached in the heat of July.

As to the location of the bite and the mortality, it is found that the well-established rule is borne out. First come the face and head cases, with a mortality of 20 per cent.; then the hands, and after that the covered portions of the body.

Among all the reported cases up to 1898, eight cases were treated either at Paris, Vienna, Cracow or Budapest.

In view of the fact that every year in Prussia there had been about four deaths from a disease which could be prevented, the authorities established an institute for the Pasteur treatment in Berlin under the direction of Professor Pfeifer. At first it was located in a house in Schumann-Strasse, but on the completion of the Institute for Infectious Diseases, of which Koch is the head, it was moved into new quarters there.

The treatment was studied at Vienna, Budapest and Cracow, and was started with virus from the institute at the Rudolph Hospital in Vienna, of which Professor Poltauf is the director. The institute was opened for the reception of patients on the third day of May, 1898.

During the portion of the year 1898, 137 cases were treated, with no deaths. Of these 67 per cent. were bitten by animals

proved to be rabid by inoculation experiment. The method of treatment consisted in using the following injections:

1st	day....	12-11	day	cord.	11th	day....	4 day cord.
2d	"	10- 9	"	"	12th	"	4 " "
3d	"	8- 7	"	"	13th	"	4 " "
4th	"	7- 6	"	"	14th	"	3 " "
5th	"	5	"	"	15th	"	2 " "
6th	"	5	"	"	16th	"	5 " "
7th	"	4	"	"	17th	"	4 " "
8th	"	3	"	"	18th	"	3 " "
9th	"	5	"	"	19th	"	4 " "
10th	"	5	"	"	20th	"	3 " "

It will be observed that the treatment is begun with a cord which has dried twelve days instead of one which has dried fourteen days, as in Paris, and that on the fifteenth day an injection of a cord which has dried but two days is used, while in Paris the cord which has dried for three days is the strongest virus used.

During the second year (1899) 384 cases were treated. Of these one man died of chronic nephritis during the treatment, and two cases were brought in with rabies already developed. There were two fatal cases—one, a girl of six, who died six days after treatment, and the second, a girl of four, who died fourteen days after the treatment. In statistical studies these cases may be regarded as occurring during treatment, as it has been proved through animal experiments that it requires fifteen days after the treatment to establish an immunity.

With an idea of shortening the time required for producing an immunity the weaker cords have been discarded, and only the stronger ones used. The cases are treated according to two divisions, viz., light cases and severe cases.

Light cases are those bitten through the clothing, and severe those bitten on exposed surfaces. For the light cases the formula is as follows:

Day of treatment.	Age of cord.	Day of treatment.	Age of cord.
1	8-7 days.	11	4 days.
2	7-6 "	12	3 "
3	5 "	13	3 "
4	5 "	14	2 "
5	4 "	15	2 "
6	3 "	16	5 "
7	3 "	17	5-4 "
8	5 "	18	3 "
9	5 "	19	4 "
10	4 "	20	3 "

For the severe cases the formula is varied to the following:

Day of treatment.	Age of cord.	Day of treatment.	Age of cord.
1	8-7-6 days.	12	4 days.
2	5-4 "	13	4 "
3	4-3 "	14	3 "
4	5-5 "	15	3 "
5	4-4 "	16	2 "
6	3 "	17	2 "
7	3 "	18	4 "
8	2 "	19	3 "
9	2 "	20	2 "
10	5 "	21	2 "
11	5 "		

Three cubic centimeters of the emulsion of the cord are used, and the injections are made under the skin of the abdomen, as is customary.

The conclusions to be drawn from the experience in Germany are quite evident. In Prussia alone there is an evident increase in the disease in animals, with a consequent increase in the number of people bitten. In spite of this fact the mortality percentage has been definitely lowered. In the untreated cases during 1899 *the percentage of deaths was* 6.9 *per cent. In the treated cases, even counting the two cases which, for reason stated above, should not be counted as failures of the treatment, the mortality is only* 0.52 *per cent.*

LITERATURE.

1. Kirchner: "Ueber die Bissverletzungen von Menschen durch tolle oder der Tollwut verdächtige Tiere in Preussen während des Jahres 1897." *Klinisches Jahrbuch,* 1898.

2. Ibidem, 1898. *Klinisches Jahrbuch,* 1899.

3. Ibidem, 1899. *Klinisches Jahrbuch,* 1900.

4. Jahresberichte über die Verbreitung von Tierseuchen im deutschen Reiche. Cited by Kirchner.

5. Marx: "Die Abteilung zur Heilung und Erforschung der Tollwut am Institut für Infektions-Krankheiten zu Berlin." *Klinisches Jahrbuch,* 1898.

6. Marx: "Bericht über die Thätigkeit der Abteilung zur Heilung und Erforschung der Tollwut am Institut für Infektions-Krankheiten zu Berlin im Jahre 1898." *Klinisches Jahrbuch,* 1899.

7. Ibidem, 1899. *Klinisches Jahrbuch,* 1900.

A CASE OF TETANUS TREATED WITH ANTITOXIN.

By J. W. Humrichouse, M.D.,
Hagerstown, Md.

READ BEFORE THE MEDICAL SOCIETY OF WASHINGTON COUNTY, MARYLAND, APRIL 10, 1901.

Mr. S., November 8, 1900, while repairing a hog-pen, stepped upon a wire nail, forcing it between the first and second metatarsal bones almost through the foot. The wound was saturated with turpentine and covered with the rind of bacon, and for four weeks was poulticed with flaxseed meal to make it discharge, which it did rather freely. December 22 Mr. S. drove six miles to a creamery, and when he arrived there his jaws were so stiff that he could hardly talk. When he returned home his whole body was so rigid that he got out of the wagon with difficulty. Some time before this his jaws had been stiff, and he told his mother he had taken cold, whereupon she made him a scarf to wear around his neck.

It will be observed that the first symptoms of tetanus occurred about five or six weeks after the accident. Dr. Boose and I saw the case on December 26. The patient sat somewhat stiffly in an easy chair, his head slightly extended, the abdominal muscles tense, this general rigidity being now and then increased by a momentary contraction of all the muscles. He complained constantly of pain in the epigastrium. The wound in the foot was covered with thick epidermis, which made it appear healed, although its site was indurated and painful upon pressure, and after removal of the thick skin Dr. Boose pressed out a few drops of pus. We then thoroughly opened the wound and irrigated it with a 1 to 1000 sublimate solution. These manipulations caused many spasmodic contractions of muscles, so that the next day when we cleansed the wound the patient was put under ether. Throughout his sickness chloral, potassium bromide and codeine were given in sufficient doses to produce somnolence, and we were able to give food in sufficient quantity to sustain life.

Notwithstanding the local and general treatment the rigidity of the muscles persisted, and spasms were of very frequent occurrence. Twenty c. c. of tetanus-antitoxin were injected into the back January 1, the same amount on January 2, and double the amount on January 3; 40 c. c. were given on the 5th of January, 40 c. c. on the 6th, 20 c. c. on the 7th, and the same quantity on the 8th of the month. No more antitoxin was given after January 8, as the spasms ceased, and the patient gradually improved. From January 1 to January 8, 200 c. c. of antitoxin were given in twenty injections, producing redness and some heat of the skin from the neck to the buttocks, and also an eruption over the whole body of round, red, flat spots about one-eighth inch in diameter.

The recovery in this case seems to have been due to the use of antitoxin, for the reason that the rigidity and spasms which persisted under the ordinary treatment stopped almost abruptly after the last injection of serum. The doubt arises from the facts that cases of tetanus get well without antitoxin, and that the difference in mortality is slight between cases treated without and cases treated with the serum. Thus, without antitoxin 252 cases in 1838 gave a mortality of 50 per cent., and 912 cases in 1889 a mortality of 44 per cent. On the other hand, with antitoxin fifty-four cases in 1897 collected by Rose gave a mortality of 40 per cent., and a large series of cases collected by Steuer in 1900 gave a mortality of 45 per cent. Steuer puts the mortality of acute cases without the serum treatment at 91 per cent., and of chronic cases at 50 per cent. Dr. J. D. Blake of Baltimore, at the last meeting of the American Medical Association, reported five cases of tetanus treated with antitetanic serum, all of which recovered, but at the same meeting Dr. Whitmore of New York stated that nine cases had been treated at Roosevelt Hospital, having been trephined and inoculated sub duram, and that seven of them had died. Dr. E. B. Adams, in the *Philadelphia Medical Journal*, Vol. IV, No. 27, reported a case, successfully treated with serum, of a boy wounded on the palm of the hand by the discharge of a blank cartridge in a toy pistol. This case is noteworthy on account of the well-known fatal nature of toy-pistol wounds.

The result of the serum treatment is seen to be disappointing according to the statistics of collected cases. It is unsatisfactory because given after the disease is well developed, when, according to Steuer, the toxins generated by the bacilli in the wound have been carried by the blood to the nerve-cells in the brain and cord, and have entered into chemical combination with their protoplasm, which the antitoxin cannot neutralize. Steuer states that the antitoxin can counteract only the toxin which is being absorbed from the wound into the circulation. Roux and Behring insist that to be of the greatest value tetanus antitoxin must be given not later than the greatest value tetanus antitoxin must be given not later than thirty hours after the first onset of symptoms. Tizzoni records two cases of recovery, in one of which antitoxin was used three days after infection of the fingers with a highly virulent tetanus culture, and in the other in which it was used twenty-four hours afterwards. Both cases had slight symptoms of tetanus. That tetanus antitoxin is a potent remedy is demonstrated by the immunity which it confers upon animals and man when used as a preventive. Veterinary surgeons have used preventive injections of the serum upon animals about to be operated upon in districts where tetanus is common, and the animals have escaped tetanus. The same immunity was given women operated upon during an epidemic of tetanus in Prague in 1897 and 1898.

The following conclusions may be offered:

1. While it cannot be proved that the case here related recov-

ered through the use of antitoxin, it is probable, for the reason that improvement followed its use.

2. The difference in mortality is slight between cases treated with and cases treated without antitoxin.

3. The non-efficiency of the serum treatment is due to its administration after the onset of the disease, when the poison has been absorbed by the nerve-cells of the cord.

4. The efficiency of the serum lies in its neutralization of the toxins in the blood, and the prevention thereby of their effect upon the nerve-cells.

5. Antitoxin should be used immediately upon the reception of a suspicious wound, such as a penetrating wound of the foot by a nail, or a toy-pistol wound of the hand, and in other wounds as soon as slight symptoms of tetanus show themselves.

6. Antitoxin will prevent the development of tetanus in animals and man when given prior to operations in hospitals and places where tetanus is prevalent or epidemic.

A REVIEW OF SOME OF THE RECENT WORK ON THE PHYSIOLOGY AND PATHOLOGY OF THE BLOOD.

By Thomas R. Brown, M.D., Baltimore.

(CONTINUED FROM APRIL, 1901.)

VII. THE BLOOD IN SPECIAL DISEASES AND PATHOLOGICAL CONDITIONS.—(*Continued.*)

5. *The Blood in Nervous and Mental Diseases.*

(a) Capps (*American Journal of the Medical Sciences*, CXI, p. 650) has studied the blood in twenty cases of general paralysis. He found that the hemoglobin and red-blood corpuscles were always decreased, and that the specific gravity was always slightly diminished. There was usually a slight leucocytosis, which was absent in the early stages of the disease. The lymphocytes were diminished, the large mononuclears increased. In a few cases the eosinophiles were very numerous. At the time of a convulsion the red-blood cells and hemoglobin were increased, while during an apoplectic attack of longer duration they were diminished. After convulsions and apoplectic attacks a leucocytosis would make its appearance, the grade of which depended directly upon the severity and length of the attack; here the large mononuclears were increased.

Jenks (*American Journal of Insanity*, January, 1900) contributes the results of differential counts of the white-blood cells in nine cases of general paralysis studied by him. He concludes that there is an increase of large mononuclears prior to epileptiform and congestive seizures, but not especially at other periods, and that an increase of these cells justifies a suspicion of an attack.

(b) In chorea Burr (*University Medical Magazine*, IX, 3, p. 183) concludes, from a study of thirty-six cases, that usually during the course of the disease the hemoglobin and red-blood corpuscles become slightly diminished.

Murphy (*Kansas City Medical Record*, December, 1899) studied eight cases of this disease, besides reviewing the literature. He concludes that in the vast majority of cases the blood is somewhat deficient both in red-blood cells and hemoglobin. The anemia found is of the chlorotic type. When grave anemia is present complications are usually to be found to explain it. Murphy believes that the chorea causes the anemia, not the reverse.

(c) Lunenburg (*Centralbl. für inner. Med.*, No. 21, 1899) contributes an article on the hematology of the functional neuroses. His conclusions are: (1) The blood, contrary to the usual view, shows no anemic symptoms, *i. e.*, no hydremia, but normal water contents; (2) the red-blood corpuscles are often distinctly increased, probably due to the ease with which vaso-motor disturbances may be set up at the time of the examination; (3) the leucocytes are often subnormal; (4) marked precipitating changes often take place.

(d) *In epilepsy*, Krainsky (*Allgemein. Zeitschr. für Psychiatrie*, LIV, 4, p. 612) examined the blood by Drechsel's method, and showed that the carbonic acid in the blood is considerably increased, and that this increase is in direct relation to the violence of the epileptiform attacks. The same was true of the ammonia in the blood. Only cases of true epilepsy are considered in his series.

Herter (*Journal of Nervous and Mental Diseases*, February, 1899) discusses the toxic properties of the blood in epilepsy. The method he employed was the infusion of 5 c. cm. of defibrinated blood from epileptics and normal persons per minute into the femoral vein of a rabbit until toxic symptoms arose. The results were doubtful and not conclusive, and in no case was there any evidence that in epilepsy the blood was more toxic than normal blood.

(e) Burrows (*American Journal of the Medical Sciences*, May, 1899) furnishes the results of his study of leucocytosis associated with convulsions. Burrows studied in all seven such cases—two of senile dementia, two of general paralysis, one of catotonia, one of puerperal eclampsia, one of terminal dementia. He studied also two cases without convulsions—one a general paralytic, the other a normal and athletic young man. These last two, the first in his frenzies, the second in his exercises, showed a leucocytosis but of low degree, of short duration, and not of the inflammatory type, *i. e.*, the percentages of the different varieties of leucocytes were normal, while in the seven cases associated with convulsions the leucocytosis was of the inflammatory type, *i. e.*, the polymor-

pho-nuclear neutrophiles were markedly increased, often reaching 95 per cent., while in some of these cases the leucocytosis reached 50,000. Thus there is a leucocytosis associated with convulsions not only in general paralysis, but in other cases as well, and the grade of this leucocytosis bears a relation to the severity of the attack. In part this is due to the muscular work done, a part which, owing to its physiological character and its short duration, is shown to be superimposed upon a pathological leucocytosis of longer duration. The eosinophiles were usually diminished, being only increased in three of the large number of counts made.

6. *The Blood in Pregnancy, Labor, and the Puerperium (including the Blood in Eclampsia).*

Hibbard and White (*Journal of Experimental Medicine*, 1898, III, No. 6) studied the leucocytosis of labor and the puerperium. They found it present in all of the fifty-five cases studied by them. The leucocytosis reached its maximum at the time of labor, then followed by a rapid fall to the normal, only broken by a slight rise on the seventh day. It was most marked in young women, especially in primiparae, while even mild irritation of the breasts caused a marked increase.

Biegonne (*Arch. russe de Path.*, etc., 1898, VI, p. 70) observed that during the last days of pregnancy there was a general increase in the number of the white-blood corpuscles, affecting only the ripe forms, the young elements (lymphocytes) being diminished. During the day following delivery there is an extraordinary increase of leucocytes, both ripe and young forms being affected, also the polymorpho-nuclear neutrophiles. During the next few days, besides a general decrease of the leucocytes, there is an absolute as well as a relative diminution of the polymorpho-nuclear neutrophiles. The other forms are also diminished, but in different ways; the eosinophiles are more numerous than usual from the first day of pregnancy; immediately after the birth of the child they fall, but are increased again from the second day on.

Ascoli and Esdra (*Bull. della Soc. Lancisiana*, 1898, XVIII, 2) discuss the leucocytosis of pregnancy. In seventeen cases examined from the fourth to the ninth month they found no definite leucocytosis (*i. e.*, more than 10,000), and they explain the figures given by Rieder as the average during pregnancy, 13,000, because of the fact that he examined many near the end of pregnancy, when the abdominal stasis and the increased functions of the breast glands would cause a leucocytosis. They found the digestion leucocytosis wanting in the last four months of pregnancy, and regarded it as in a way due to an auto-intoxication, something like that seen in cancer, diabetes, acute nephritis, hypertrophic cirrhosis of the liver, and other conditions into which auto-intoxication may easily enter.

Levinowitsch (*Centralblatt für Gynäkologie*, 1899, No. 45) studied

the blood in eclampsia, especially in connection with Döderlein's discovery of micro-organisms in eight cases of this condition. Cultures were taken in twenty-eight cases, and a growth occurred in twenty-five. Large motile cocci were found in the freshly-taken blood of forty-four patients. The cultures were pathogenic to guinea-pigs, and in four weeks after inoculation the animals developed acute anemia and hemorrhagic endometritis. He also found the same micro-organism in three new-born children suffering with convulsions, and in women who did not have typical attacks, only headache, edema of the ankles and vomiting.

7. *The Blood in Diseases due to Animal Parasites, including* (a) *Trichinosis, and* (b) *Anchylostomiasis.*

(a) Since the original report by T. R. Brown (*Johns Hopkins Hospital Bulletin*, April, 1897) of the presence of a marked eosinophilia in trichinosis and the possible diagnostic value of this blood phenomenon, especially in differentiating this disease from other diseases associated with gastro-intestinal or muscular symptoms, numerous observations have been reported, all tending to substantiate this view. Brown reported three additional cases (*Journal of Experimental Medicine*, 1898, III, No. 3, and *Medical News*, 1899, January 7), all of which showed from 40 to 68 per cent. of eosinophiles in the circulating blood, and trichinae in the muscle, of which a small portion was removed in each case for examination.

Atkinson (*Philadelphia Medical Journal*, June 3, 1899) reports a case, substantiated by muscle examination, in which the marked eosinophilia led to the diagnosis being made, while Blumer and Newman (*American Journal of the Medical Sciences*, January, 1900) report a family outbreak of the disease in which nine persons were affected, and where the symptoms markedly resembled those of typhoid fever. The diagnosis was made from the blood examination, which showed a leucocytosis, with a great increase of the eosinophiles, while trichinae were found in excised portions of the muscle. Stump (*Philadelphia Medical Journal*, June 17, 1899) reports three cases diagnosed by the marked eosinophilia, and Kerr (*Philadelphia Medical Journal*, August 25, 1900) reports two cases, in one of which the diagnosis was not even suggested until after the blood examination. The leucocytosis in each of Kerr's cases reached 25,000, while the eosinophiles reached the remarkably high percentage of 68.7 per cent. and 86.6 per cent.

Howard (*Philadelphia Medical Journal*, December 2, 1899) reports a fatal case in which a casual examination of a fresh specimen led him to suppose that there was no eosinophilia, although no differential count of the leucocytes was made. There was, however, a marked increase of the eosinophiles in the affected muscle tissues, as Brown had originally noted and as subsequent investigators had found.

Gwyn (*Centralblatt für Bakteriologie*, 1899, XXV, p. 746) reported a case diagnosed by the marked eosinophilia. Recently Gordinier (*Medical News*, December 22, 1900) has reported two cases in which the diagnosis was made by this means, and in which he gives a careful review of the literature of the subject. As to the mode of origin of the eosinophiles in these cases the views of the different observers differ somewhat, Brown believing that they are derived from the neutrophiles, the transition taking place in the affected portions of the muscle, while Howard believes they are derived from the plasma cells, which, in turn, are probably derived from the large mononuclears. Kerr, from a careful study of his two cases, differs from Howard, and is opposed to the view that they are derived from the large mononuclears.

(b) The well-recognized anemia due to *anchylostomiasis* has been recently studied anew by Leichtenstern (*Deutsch. med. Wochenschr.*, Jan. 19, 1899), who speaks of the frequency with which it is met in the tropics, and also calls attention to the fact that no race possesses an immunity against this parasite.

An interesting discussion on this subject is to be found in the *British Medical Journal*, September 1, 1900, in which Giles, Fearnside and others joined. According to them the anemia is due partly to the loss of blood, partly to the damage done to the intestinal mucosa, and probably also partly due to some poison secreted by the worm.

From the studies from this and other diseases prevalent in Assam the conclusion was reached that the color index was exceedingly low in this disease, being always below .4, while in uncomplicated malaria it was always above .5.

8. *The Blood in Diseases of the Skin.*

The greatest interest in connection with hematological studies in skin diseases has centered about the increase of the eosinophiles often noted in some of these diseases, and the light these observations throw upon the question of the origin of these cells.

As everyone knows, an eosinophilia has been noted by various observers in eczema, lupus, prurigo, and especially in pemphigus and the pemphigoid eruptions.

Brown and Dale (*Journal of the American Medical Association*, February 17, 1900) report the blood findings in a case of dermatitis herpetiformis of twenty-seven years' duration. Five counts in all were made, the first June 12, the last September 5. The red-blood cells varied between 5,128,000 and 5,808,000, the white-blood cells from 9000 to 14,000 per c. mm. The percentage of the various leucocytes lay between the following: Eosinophiles 29.2 per cent. to 44.3 per cent., polymorpho-nuclear neutrophiles from 29.25 per cent. to 39.25 per cent., large mononuclears from 2 per cent. to 5.2 per cent., and small mononuclears from 19 per cent. to 32.8 per cent. No trichinae were found in an excised portion of gluteal muscle.

Okamura (*Arch. für Dermatol. und Syphilis*, January, 1900) reports the blood findings in three typical cases of xeroderma pigmentosum from Kaposi's clinic. In these cases the hemoglobin was 40 per cent., 65 per cent., and 45 per cent., respectively; the red-blood cells 3,920,000, 3,400,000, 2,788,000, and the white-blood cells 46,666, 37,300, and 54,545 per c. mm., respectively. The percentages of eosinophiles were 7, 9.2, and 1.2 per cent.

Colombini (*Monatshefte für praktisch. Dermatol.*, May 15, 1900) examined the blood in a case of epidermolysis bullosa hereditaria, and found from 8 to 10 per cent. of eosinophiles in the circulating blood, and 10 to 14 per cent. in the vesicles. T. R. Brown (MARYLAND MEDICAL JOURNAL, April, 1901) examined the blood in a case of this same disease, and found 11,000 leucocytes per c. mm., of which 9.7 per cent. were eosinophiles.

The exact function of the eosinophiles has already been touched upon under Section VI. It may be of interest to note here that Klebs (*New York Medical Journal*, February 17, 1900) regards the presence of eosinophile cells as the evidence of a healing process, while Diabella (*Ungar. med. Presse*, 1897, II, 28 and 29) thinks an increase of the eosinophiles a good prognostic sign in severe anemias, especially if this increase continues for some time. Diabella thinks it is probably due to the fact that the bone-marrow is the seat of origin of these cells, and their increase signifies a tendency towards regeneration of the blood.

9. *The Blood in Various Other Diseases and Pathological Conditions.*

(a) Mott and Halliburton (*British Medical Journal*, July 29, 1899) carefully studied the blood in a case of beri-beri. From the blood they obtained a substance causing a distinct fall of blood-pressure, which is the same result as that caused by the choline found in the cerebro-spinal fluid of the insane.

(b) The blood changes after experimental thyroidectomy have been carefully studied by Levy (*British Medical Journal*, September 3, 1898; *Journal of Pathology*, 1898, Vol. III, p. 316). He found that after thyroidectomy in dogs a marked anemia appeared early usually, but this was not invariably so. The maximum diminution of hemoglobin and red-blood cells was 25 per cent. In the cases of marked anemia of this degree the liver gave the iron reaction with ferrocyanide of potash. Leucocytosis was always found, and many small forms made their appearance on the day following the operation. The number varied between 32,000 and 44,000. An increase in fibrin was constant.

(c) Licht (*Nord. med. Arkiv.*, 1899, No. 3) has made an extended study of the bacteria found in the blood in disease. An extended research was carried on in the various diseases by the following method: 20 c. c. of blood was taken and mixed with from 5 to 50 c. c. of bouillon and incubated. Seventy-two cases were studied, with the following results: Five were contaminated, thirty-one were positive, thirty-six were negative.

In the list of thirty-six negative cases were seen cases of erysipelas, meningitis, furunculosis, tuberculosis, angina, diphtheria, typhoid fever, and influenza, while among the thirty-one positive cases were typhoid fever, scarlet fever, tuberculosis, osteomyelitis, foot-gangrene, and articular rheumatism.

The striking result of these researches lies in the marked increase in the percentage of the positive cases over that found by other investigators, due perhaps to the large amount of blood used.

(d) Pozzoli (*Arch. für Dermatol. und Syphilis*, XXIV, Nos. 1 and 2) has made a careful study of the leucocytes in the blood and in the inflammatory exudate in gonorrhea. He found that in anterior urethritis the gonococci were concealed in the crypts of Morgagni and in Littre's glands, and in posterior urethritis gonococci were in the prostate in both acute and chronic cases. Eosinophiles were found in the secretions of the urethra and the annexed glands; in chronic cases the most eosinophiles were found in the prostatic secretion, a smaller number in the pars posterior and pars anterior, and to the least extent in Littre's glands.

The blood in the acute cases showed an inflammatory leucocytosis, with a significant increase of eosinophiles.

(e) Voswinckel (*Monatsschr. für Geburtsh. und Gynäkol.*, VII, part 4, p. 413) contributes an article upon eosinophiles and myelocytes in the blood of cases of diseases of the female internal genital organs.

One hundred and twenty-six cases in all were examined, with the following results: The eosinophiles and myelocytes were normal in tubal disease, uterine myomata, and endometritis; in severe, but not feverish or malignant ovarian diseases, there was eosinophilia constantly, and often also the presence of myelocytes. In two cases of severe ovarian disease with fever, and in two cases of uterine carcinoma, there was eosinophilia, while in cystic conditions of the ovaries or diseases associated with pus production, tending to a complete degeneration of the ovarian tissue, in ten of eighteen cases there was eosinophilia and an increase of myelocytes.

The preceding pages give in digest some of the more important articles upon the blood which have appeared during the past two years or more. Obviously it has been only possible to touch upon a small proportion of the articles upon hematology appearing during that time, but it has been our object in the preceding pages to give a fair, though brief, survey of the investigations carried on in every branch of this field in the hope that this review may be of service to those already interested in the subject, and may stimulate those to whom the blood is a *terra incognita* to devote more time and attention to this extremely important branch of medicine.

Current Literature.

PATHOLOGY AND BACTERIOLOGY.

Under the Supervision of Robert Reuling, M.D., Baltimore.

Diffuse Degeneration of the Spinal Cord—Clinical Analysis of Fifty Cases. By James J. Putnam. Pathological Study of Five Cases. By E. W. Taylor. *Journal of Nervous and Mental Diseases*, Vol. XXVIII, No. 2.

A review of the clinical side of this subject appeared in the Maryland Medical Journal, No. 3, 1901. The present review will be strictly confined to the pathological findings in five cases of this diffuse degeneration of the cord. The authors present the results of their studies in a clear and concise manner, and treat the subject throughout with scientific accuracy. They have certainly chosen for study a very interesting disease of the central nervous system; the correct interpretation of which will have bearing on many similar conditions due to the action of certain poisons on the nervous tissues.

The article consists of twenty-six pages, and is enhanced by several drawings and microphotographs. The blood-counts and hemoglobin estimations are also valuable additions.

The authors very naturally come to the conclusion, after a study of five cases showing this form of degeneration, that the pathological process is due to the action of a certain toxin or several toxins. A point of special interest is the variation in the clinical course of these cases. In some the anemia and malnutrition are well established before any spinal-cord symptoms show themselves. Other cases have as initial symptoms well-marked evidences of cord disease followed by a progressive anemia and malnutrition. That the identical pathological process may occur in the cord without the presence of the anemia is very evident from the author's studies, even in cases where the patient has lived a number of years with a diseased cord.

There is therefore every reason to suppose that more than one toxin exists, and that they act specifically on the central nervous system and on the blood, and the various clinical symptoms are dependent on the preponderance of this or that toxin, or the absence of certain toxins. We have in diphtheria a very similar example of the action of various specific toxins—one affecting the blood, the parenchyma of certain organs, and perhaps the muscles (heart muscle), the other acting only on the nervous tissues. The fact that the percentage of cases developing paralysis during the course of or after diphtheria has apparently not been reduced since the introduction of the antitoxin treatment seems best explained by the theory that the antitoxin only acts on its special toxin, and

that we are still allowing another poison to act, having no special antipoison to neutralize it.

The same conditions apparently exist, but with certain peculiarities (delayed action, etc.), in syphilis. In this disease the poison which produces gummata, arterial and certain parenchymatous changes is readily affected by mercury and iodide of potash. The so-called metasyphilitic processes are probably the result of an entirely distinct toxin, having a special affinity for the central nervous system. For this toxin we must find another remedy, and it will in all probability be isolated from the organism of syphilis, being in the form of an antitoxin. The reviewer has taken the liberty of expressing these views in this place purely with the idea of trying to show how the studies of this spinal degeneration, associated with anemia, etc., has a direct bearing on many other subjects.

The following case, illustrating this condition, with autopsy findings, will be briefly reviewed as a good example of one type of clinical picture presented:

Case I. Male, aged fifty-five years; family history unfavorable, members having died of tuberculosis, cancer, interstitial nephritis, and a psychopathic tendency being manifest in several members. Many years before death the patient showed evidence of being mentally unbalanced. He had all sorts of morbid fears, and for many years lived as an exile. Physical health never vigorous; frequent digestive troubles. Three or four years before death severe anemia appeared, and troublesome bleeding from gums. Improvement at first under arsenic, but only temporary. Nine months before exitus blood examination revealed hemoglobin 26 per cent.; reds 1,284,000, whites 3750; polynuclears 49.6 per cent.; large mononuclears 20.5 per cent.; small lymphocytes 27.2 per cent.; eosinophiles 2.7 per cent.; poikilocytosis; numerous nucleated reds. Spinal symptoms developed gradually during last year of life, and consisted first in a feeling of numbness and inco-ordination; general emaciation. Autopsy showed iron pigmentation of liver and characteristic anemic changes in bone-marrow.

Spinal-cord examination: Degeneration essentially confined to dorsal and lateral columns, and more marked in upper than in lower segments. In lumbar regions changes exceedingly slight; there is just a slight blanching in dorsal-column fibers in Weigert specimens. Neuroglial elements somewhat increased. Lateral tracts show only a suggestion of degeneration in the myelin in fibers. There are two tongue-shaped areas of marked degeneration in the lower thoracic, lying in the dorsal bundles, and placed symmetrically on either side of the dorsal septum.

Thoracic region: Degeneration more extensive here than at lower levels of cord, and more diffuse; cerebellar tract invaded; dorsal fibers degenerated, except a narrow strip in Burdach's column; anterior columns entirely uninvolved. The authors find practically no change in the gray matter. In lumbar region the cells show excessive pigmentation. In contradistinction to tabes,

the root fibers show little, if any, change; only an occasional degenerated fiber is found.

Blood-vessels: Many of the vessels within the cord have moderately-thickened walls, and are in a condition of hyaline degeneration. The pia and its vessels are normal.

As to the classification of the changes in the cord in this form of sclerosis the authors make the following statement: "At the same time it is at once to be admitted that the lesions observed in the class of cases under discussion have a quassi-systemic character, inasmuch as with practical constancy the dorsal and lateral columns are involved. It becomes necessary, therefore, to distinguish sharply between systemic in the old sense (Charcot) as applied to the cord alone, and systemic in the new sense as applied to nerve-cells (neurones). The terminology which is now alone admissible is certainly excluded in these types of diffuse degeneration." The degeneration of these areas in the cord clearly do not represent neurone degeneration, to which alone the word "systemic" should now be applied.

* * *

On the Relation of Chronic Interstitial Pancreatitis to the Islands of Langerhans, and to Diabetes Mellitus. Eugene L. Opie, M.D. *Journal of Experimental Medicine*, Vol. V, No. 4.

The relation of diabetes mellitus to disease of the pancreas is now a well-established fact. The subject has received the attention of numerous clinicians, and innumerable experiments have proven the connection between the functional activity of the pancreas and the metabolism of the carbohydrates in the animal organism. The pathologist has, however, only felt justified up to the present time in regarding certain well-marked changes in the pancreas as having any connection with diabetes; for instance, certain forms of diffuse sclerosis of the organ, especially when arterio-sclerotic changes are co-existent; also neoplasms and acute inflammatory conditions. Experiments have heretofore also borne out the view that the metabolism of the carbohydrates is not appreciably interfered with unless a considerable portion of the organ is removed or destroyed. Statistics also show that only a very small percentage of neoplasms of the pancreas are associated with sugar in the urine.

Several pathologists have attempted to associate a special form of pancreatic disease with diabetes, but none of their claims can be said to hold good. Opie's investigations have, however, covered an entirely new field, for he has not only studied the relation of diabetes and various forms of pancreatic disease, but has considered more especially the pathological changes in certain groups of cells. These cells differ in morphology, etc., from the true acinar cells. They are arranged in small groups outside the lobule, and by their functional activity, Opie believes, the metabolism of the carbohydrates is greatly influenced. These groups of cells were

first described by Langerhans, and are known as the "islands of Langerhans." As to their origin, function, etc., Opie comes to the following conclusions:

"1. The islands of Langerhans are composed of cells having the same origin as those of the glandular acini, but forming structures which are independent of the secreting apparatus and in intimate relation with the vascular system.

"2. In the splenic end of the cat's pancreas they have a definite position within the lobule, each of which contains one of these structures.

"3. In the human pancreas they are more numerous in the splenic extremity or tail than elsewhere. Similar variation in their number is observed in cats and dogs.

"4. Prolonged stimulation of the gland does not, as claimed by Sewaschew, transform groups of acini into islands of Langerhans."

The islands of Langerhans do not always show alterations corresponding to those which occur in the tissue of the acini about them, often persisting, though the adjacent parenchyma is destroyed. They are composed of columns of cells having no communication with the ducts of the gland, but are in intimate relation with a rich capillary network. The pancreas exerts through the medium of the blood an important influence on metabolism, and it has been suggested by several observers that the islands of Langerhans may furnish an internal secretion to the blood.

Opie has examined microscopically the pancreas from eleven cases of diabetes, and in four instances such marked changes were found that he expresses the belief that there is no doubt as to the relationship of the diabetes to the lesions in the pancreas. He says "the limited number of cases makes far-reaching conclusions impossible. Nevertheless several facts of considerable interest appear."

A short review of the following case reported by the author will be of interest, as it illustrates how a pancreas which presents practically no macroscopical changes may show on microscopical examination important pathological changes in its parenchyma:

Case XVII. Female, aged seventeen years; as a child, never healthy, and when seventeen months old had an abscess of the abdominal wall, near the liver; sugar found in urine two years before death, and was constantly present in large amount; death, with coma, which lasted only twenty-four hours.

Autopsy: The only lesion noted was that affecting the pancreas.

Microscopical examination: The organ is in a large part self-digested, and stained specimens have a blurred appearance, cell protoplasm and nuclei staining with almost equal intensity. The interstitial tissue is increased only in localized areas. Throughout the organ, readily distinguishable even in the most digested portions of the gland, are very conspicuous, sharply-defined round

or oval hyaline areas embedded in the parenchyma. Their structure is as follows: Coarse, tortuous hyaline columns separate strands of tissue containing nuclei, and representing, in part at least, capillary endothelium from compressed rows of epithelial cells, evidently atrophied parenchyma cells. The hyaline material lies immediately outside the capillary wall, between capillary and parenchyma.

The hyaline material has at times an indistinctly striated appearance, the striation being parallel to the course of the capillaries. The epithelial cells between the tortuous hyaline columns form compressed rows, varying in width. The cells are usually arranged in columns, giving no indication of acinar arrangement, but rarely within such an area, or more frequently at its periphery is found a double row of cells about a well-marked lumen.

The hyaline material does not stain by Weigert's method of staining fibrin. Reactions for amyloid were not obtained with specimens hardened in alcohol. The general parenchyma in which the hyaline masses lie is not markedly changed. The cells are somewhat smaller than usual, and in material hardened in Fleming's solution are found to contain numerous fat droplets. The interstitial tissue is not, as a rule, increased. In the tail the parenchyma, representing several groups of lobules, has been almost completely replaced by the hyaline structures described, between which is fibrous tissue containing only a few atrophied acini, composed of low cubical cells about a distinct lumen. Islands of Langerhans of normal structure are not found. The blood-vessels outside the hyaline areas show no change.

Microscopical examination of other organs: The liver is normal in appearance. There is no increase of interstitial tissue, and the blood-vessels are normal. In a section of the kidney a small collection of lymphoid cells presents at one point; otherwise no change is noted.

From this case the reader will get a very good idea of the character of the pathological process in the pancreas in this form of disease associated with diabetes mellitus to which Opie has especially directed his attention. The fact that the islands of Langerhans are destroyed, or at least isolated from their vascular supply, while a considerable part of the secreting parenchyma is not markedly changed, is the point of special interest and importance.

Opie includes in his article the description and study of the following varieties of pancreatic disease and their relation to diabetes, but a review of this portion of his work is not possible, and the reader is referred to the original article. These forms include chronic pancreatitis following obstruction of the ducts, chronic interacinar pancreatitis, chronic pancreatitis associated with hemochromotosis, hyaline degeneration of the pancreas, congenital syphilitic pancreatitis, chronic pancreatitis of the developed organ, and chronic interlobular pancreatitis.

The Relationship Between Myocarditis and Arterial Disease. Fujinami. *Virchow's Archiv*, Vol. CLIX, p. 447.

The author examined fifty-two cases of myocarditis, and describes with great care the macroscopical and microscopical changes. He finds that only in the acute circumscribed areas of parenchymatous myocarditis a constant and close relationship exists to arterio-sclerotic changes in the coronary arteries. These may have caused narrowing or obliteration of the vessel's lumen. In the diffuse fibrous myocarditis he also found arterio-sclerotic changes in the course of the coronary arteries, but these were mostly limited to such changes at the vessel's origin from the aorta. Rarely were any changes found in the vessels near the fibrous areas which could have any etiological bearing. In such instances he believes the arterio-sclerosis may indirectly cause the more diffuse nutritional disturbances in the heart muscle as to lead to a death of the muscle fibers and a secondary increase of fibrous tissue. The arterial changes may be very slight, causing no obliteration of the lumen. Not in all instances is the presence of fibrous tissue dependent on a destruction of muscle fibers. Fujinami found in several tissues examined a primary non-suppurative, interstitial myocarditis, without finding bacteria, where the areas of cellular infiltration caused a separation in the intact muscle fibers. Vascular changes were entirely wanting near these areas, or were secondary to acute inflammation. The author believes a toxin to be the cause of the changes, although he was unable to find any definite chemical substance. The ultimate outcome of these cases is also in the formation of fibrous-tissue areas. Points of predilection for these myocardial changes are the lower half of the anterior wall of the left ventricle and the upper part of the posterior wall. In six instances partial aneurisms of the heart had formed. One of the cases, with three aneurisms in various stages of development, is described in detail. In cases of cardiac rupture only two showed arterio-sclerotic changes; in one of these the arterial disease was very little advanced, whereas the third case showed no arterial changes whatever.

Very often a fragmentary form of myocarditis was present, and always some distance from the most involved areas. In explanation of this condition he believes the arterial changes have caused a certain amount of damage to the muscular fibers in general, but that these still have the power of contracting, and that during a more forcible cardiac contraction the fibers were torn, whereas the fibers in the areas of more advanced disease are so atrophied, or so surrounded with fibrous tissue, that they no longer contract to a sufficient extent during the cardiac systole to make tearing possible.

In Regard to a Streptothrix Pathological to Human Beings. *Contributions from the Medical Faculty of the Imperial Japanese University of Tokio*, Vol. IV, No. 7, pp. 231-276.

The first portion of this interesting article is taken up by a review of the literature on the streptothrix infections proving pathological to human beings. They then deal in the order named with the clinical history, the autopsy findings, and the morphological and biological characteristics of the organisms obtained in pure culture. The article is accompanied by eighteen drawings and photographs.

As far as the clinical history is concerned, the point of greatest interest is that the patient only had a moderately severe cough seven days before his death, and that increased expectoration was only noticeable three days before the exitus.

The examination of the sputum revealed a branched threadlike organism. During the last day of the patient's life extreme weakness existed, with clouded sensorium, death being due to cardiac paralysis. The microscopical examination of the suppurating lung cavity revealed great numbers of the threadlike branched organism, in all respects like those found in the sputum. The streptothrix stained readily, and the stain resisted the action of acid, just as the tubercle bacilli does.

From the pathological anatomical changes in the lungs the authors came to the conclusion that the streptothrix produces changes which resemble very closely those seen in caseous pneumonia. Whereas the walls of the abscess cavity in tubercular disease are smooth, in this condition the abscess cavity has a torn appearance, and the walls are ragged. The authors believe that the organism produces a toxin which causes a serous or serofibrinous inflammation in the alveolar walls, while the organism itself has a characteristic action on the leucocytes. They also believe that the organisms enter the alveoli through aspiration by way of the respiratory tract.

For culture experiments glycerine agar plates were covered with sputum and pus. In those on which sputum was used other organisms outgrew the streptothrix, but by exercising great care it was grown in pure culture from the pus. The colonies obtained by the last-named method were then transplanted to various media, which caused the streptothrix to grow out in a characteristic manner. In the animal experimentation the pus obtained from lung cavities and the pure cultures were used. Guinea-pigs dying from the inoculations showed near the edge of the liver tubercle-like nodules, the pus from which showed the organism in cover-slip preparations. It was grown in pure culture on nutrient media. Nodules were also found in the lungs and in the pericardial cavity, and in other animals in the occipital lobe of the brain. All these nodules revealed the organism. After injections into the serous cavities pseudo-tubercle and fibrinous-hemorrhagic inflammation of the serous cavities resulted. After in-

travenous injection these pseudo-tubercles developed in many organs, but the fibrinous hemorrhagic inflammatory changes were less marked.

The biological and morphological studies of the authors substantiate the previous studies of other authors on this subject, and were carried out with great care and accuracy. They also experimented on the resistance of the streptothrix to various chemical agents. As to the identity of the organism, the authors believe it resembles most nearly that isolated by Eppinger, but the resemblance does not hold good in every respect. Perhaps it is identical with that described by Buchholtz. Unfortunately, he was unable to grow the streptothrix described by him in pure culture. With that described by Petruschky and Rullmann there is nothing in common.

* * *

In Regard to the Danger of Transmitting Tuberculosis Through Milk and Milk Products. Rabinowitsch. *Deutsch. med. Wochenschrift*, No. 26, 1900.

The author has in a previous contribution with Klempler demonstrated the fact that milk can be contaminated with tubercle bacilli not only in instances of advanced cow tuberculosis or disease of the udder, but also the milk from cows in which the disease is latent, and the presence of the tuberculosis only possibly revealed by the use of the tuberculin test. In the present article her observations were directed to this subject, the material being derived from eight of the largest Berlin dairies, the milk being the unsterilized product sold under the special designation of "Kindermilch," at 35-60 pfennigs per liter, and especially recommended for children and invalids. She found that the milk of three of these dairies, which regularly insured against the presence of tuberculosis in their cattle by the use of the tuberculin test at certain intervals, that in the milk of none of these could tubercle bacilli be demonstrated. On the other hand, in the milk derived from dairies whose cattle were inspected by veterinary surgeons, but without the tuberculin test, the author was able to find bacilli in numerous specimens of milk. The author expresses righteous indignation at persons selling milk at such an increased price, and as a product especially recommended for children and invalids, when they have not used the most approved and only reliable methods for excluding diseased cattle from their dairies. The author points out that the possibility of error from pseudo-reactions after the use of tuberculin, which occurs, according to Schritz, in 2.9 per cent. of instances, can hardly be considered in any way against its employment, since its advantage above other methods is so evident.

The author also draws attention to the frequent occurrence of streptococci in milk. The relationship of this organism to severe diarrhea in children has in recent times been especially proven by the work of Easter and Booker.

From further observations of Rabinowitsch and from experiments of Horman and Morgenroth it is clearly shown that tubercle bacilli may occur in cream, cheese and kefir. The so-called sana, made from beef fat and used in the manufacture of oleomargarine, may also contain bacilli, as the fat used in the manufacture of this product is not always derived from healthy cattle, and may contain tubercular lymph glands. The bacilli are not destroyed at the ordinary melting temperature to which the fat and lymph glands are exposed. For the stamping out of tuberculosis in the human race the prevention of the disease in children is of such infinite importance that it is only by using most rigid methods for obtaining a pure milk supply for children that such an attempt can meet with any degree of success.

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

THE SURGICAL ASPECTS OF ILEUS.

Ileus Due to Vascular Obstruction. L. L. McArthur. *Annals of Surgery*, April, 1901.

McArthur says that although we are accustomed to the striking phenomena incident to embolism or thrombosis of a cranial vessel, yet because of a lack of equally characteristic symptoms, and the comparatively recent surgical access to the abdomen, the nature of the process in this region has been largely ignored.

Those causes inducing embolism and thrombosis in other vessels may exert similar influences in the intestinal circulatory apparatus. Cardiac valvular vegetations, syphilis, endarteritis, etc., may induce occlusion of the superior or inferior mesenteric artery, with the resultant gangrene of the bowel wall, varying in extent with the size of the vessel occluded.

In arteries, the thrombosis usually extends to the next branch above, while in the veins often far beyond the primary focus. Hence, the arterial lesion may be quite limited, while the venous thrombosis may be fatally extensive.

Embolic ileus, through embolism of the superior or inferior mesenteric arteries or their branches, is rare, and usually due to cardiac vegetations, etc., floating in the blood-stream. Thrombosis of the mesenteric veins is almost always due to an infective phlebitis, having its origin in the intestinal mucosa. The difference in the character of the gangrene exists in the intestine as in an extremity, being edematous if the vein be occluded, while little or none will be present where the artery is the vessel blocked. With the former, the hyperemia, the immense exudation of fluids and blood corpuscles give rise to the most constant symptom of blood in the

stools and hematemesis, whereas when the artery is involved there is the stasis, the vascular necrobiosis, the transudation of blood into the intercapillary spaces, death of the bowel, with the conditions all favorable for rapid invasion by intestinal bacteria. Under these conditions intestinal bacteria have been shown to pass through the intestinal wall in eighteen hours; most pronounced when the obstruction was on the venous side.

When the arterial supply is cut off the death of all coats is so sudden that there is not time to throw out the protective lymph on the peritoneal surface. The bowel has therefore a smooth, steel-blue, black, shiny appearance; while, on the other hand, the venous thrombosis, with more or less exudate (plastic and watery), gives a dark, reddish-black bowel with roughened peritoneum.

The four most constant symptoms indicative of ileus caused by mesenteric embolism or thrombosis are:

(1) Blood seen in the washings from bowel, in bowel movements, or in the vomitus, unaccompanied by the tumor of intussusception.

(2) Colicky-like pains, associated with pains in back and lumbar region.

(3) Early collapse, if the embolism has been sudden or extensive.

(4) Cardiac disturbance, arythmia, great frequency and albuminuria.

A man, aged thirty-five years, and weighing 200 pounds, had been suffering for two years with the symptoms of mild indigestion. It could always be temporarily relieved by laxatives and dieting. Ten days before operation he had pain in region of stomach, slight nausea, some tympanitis, no fever, no vomiting, and no soreness on manipulation. The usual treatment gave no relief, and three days later the pain had spread and become more intense; bowels regular, and contained no blood; temperature normal. A week more passed with the same symptoms, but intensified, pain especially, which was practically continuous and required morphine; no vomiting, and no blood in stools. Operation showed all the small intestines to be gangrenous, as well as the ascending and descending colon. The condition was due to occlusion of the superior mesenteric artery. The patient died on the table. No adhesions, bands, torsions, nor internal herniae were found.

* * *

ILEUS DUE TO MECHANICAL OBSTRUCTION TO THE FECAL CURRENT. Steele. *Annals of Surgery*, April, 1901.

This paper is limited to acute intestinal obstruction in which fecal movement is mechanically impeded or prevented, a condition that is accompanied by pretty uniform and definite symptoms, and almost invariably terminates in the death of the patient within a comparatively few days unless surgical intervention removes the cause. For a clearer understanding of the pathology of mechanical ileus we may classify the various forms of acute intestinal obstruc-

tion as based upon an anatomical cause—first, from compression; second, from obstruction; third, from constriction.

(1) Strangulation by peritoneal false bands or omental cords. (2) Strangulation from diverticula. (3) By normal structures abnormally attached. (4) Through slits or apertures on the mesentery, omentum or peritoneal bands.

Volvulus is usually met with in the sigmoid flexure, and is caused by a long mesentery with a narrow attachment. Intussusception constitutes nearly one-third of all cases of acute intestinal obstruction. Nearly all cases of obstruction in children are due to this cause. There are four varieties—the ileocecal, the colic, the iliac, and the iliocolic. The first is the commonest variety.

Foreign bodies cause obstruction in the ileum, near the ileocecal valve.

Mechanical ileus, or acute intestinal obstruction, is marked by a group of symptoms that are remarkably uniform if studied before they are *masked* by the administration of opium. The symptoms of acute obstruction of the bowels are pain due to rupture or tearing of the peritoneum by the constricting or compressing force; pain that is sudden and sharp in its onset, and distinctly paroxysmal in character; colicky pain, due to the peristaltic wave beating against the obstruction in its effort to overcome it. The waves can be seen, felt, and heard upon the proximal side of the obstruction, and are a guide to its location. The pain is usually referred to the region of the umbilicus at first, but soon becomes diffuse, and is relieved by pressure or compression. The abdomen is not tender at this stage. Eructation and vomiting soon begin. If the obstruction is low down in the ileum or colon, stercoraceous vomiting comes on in from twenty-four to forty-eight hours. The higher up it is the less the distention, and in colonic or sigmoidal obstruction the distention is sometimes enormous. *Constipation is complete* from the moment of obstruction, although enemata may bring away a small amount of fecal fragments and gas contained in the lower bowel below the seat of obstruction. Symptoms of shock and collapse are usually present. The countenance is indicative of pain, and soon becomes drawn; the extremities are cold; fingers blue; respiration shallow, and diaphragm stationary; temperature may be normal or subnormal, the pulse small and rapid, and urine suppressed or diminished.

We must differentiate mechanical ileus from the various other forms. A careful consideration of the antecedent history enables us frequently to make an accurate diagnosis of the special variety, but too often the differential diagnosis is made by the aid of a laparotomy or a post-mortem. In ileus due to bands or adhesions there is usually a history of plastic peritonitis, due to some previous cause. Post-operative dynamic ileus cannot be differentiated. In ileus due to compression of the bowel in a slit or opening there may be a history of abdominal traumatism. In volvulus we have the age of the patient—forty to sixty years—chronic constipation, and the enormous early distention of the abdomen. In intussus-

ception we have the sudden onset of symptoms, during infancy or childhood most frequently; the characteristic tenesmus, the feces consisting of simply mucus or mucosanguinolent material, with marked exacerbations of peristalsis and pain, and the history of previous diarrhea and excessive peristalsis. A lozenge-shaped tumor can be felt. Obstruction from foreign bodies usually gives a fairly clear history of gallstones, or the swallowing of fruit-pits, or the imbibition of magnesia and chalk for a long time, or obstipation.

Intussusception is sometimes cured by large enemata, and these should be tried, if seen during the first twelve hours, before resorting to laparotomy. Volvulus is harmed rather than benefited by enemata. Opium should never be administered. The earlier the diagnosis and subsequent laparotomy the lower the mortality from resection or anastomosis. An artificial anus is rarely indicated in acute obstruction (obstructions from neoplasms excepted).

The majority of surgeons prefer a median incision, although in cases where there is great meteorism, and the obstruction can be located, it is best to incise over the location of the trouble. If the cecum is greatly distended the obstruction is in the colon, but if the cecum is collapsed the obstruction is higher up, and search should be made until the point is reached. When found the area obstructed should always be brought out of the abdomen, when a resection is necessary. When bands are the cause it is not enough to relieve the first one found, but to search for others. In the case of foreign bodies, the mass must be pushed along the bowel, if possible, to a healthy point, and either crushed or removed. In volvulus the bowel is untwisted, and the mesentery shortened in a transverse fold. For intussusception the intussusceptum may be dragged out of the intussuscipiens, when done during the first twenty-four hours, before the wall is permanently injured. Small necrotic areas or lacerations of small extent may be inverted.

Gibson reported to the New York Surgical Society 1000 cases of acute obstruction and gangrenous hernia. He says that the most frequent causes of intestinal obstruction are intussusceptions and bands. The mortality is 47 per cent., the mortality of resection 74 per cent., the mortality of artificial anus 77 per cent.

Prognosis depends upon (1) duration of obstruction; (2) extent and severity of changes in the bowel wall; (3) the nature of the obstruction and the ease or difficulty of the relief; (4) the promptness, judgment, and skill of the surgeon; (5) the patient's general condition.

* * *

ILEUS CAUSED BY NEOPLASMS. Ochsner. *Annals of Surgery*, April, 1901.

Operations for this condition have given a large mortality in the experience of the author, and of Kroenlein, Madelung, and others. The author's mortality has been 50 per cent., due to shock, sepsis or continued obstruction, and in only two cases could the result be called satisfactory.

Carcinoma, sarcoma, myosarcoma, myoma, fibroma, lipoma, and adenoma have given rise to ileus, their frequency corresponding to the order given. The neoplasm has its origin in the intestine itself, or it originates in any one of the other intra-abdominal organs, and causes the obstruction by involving the intestine. Carcinoma of the intestine, causing ileus (and if primary, must be annular), is most common in the rectum, next in the sigmoid, next in the splenic flexure of the colon, next in the hepatic, next in the ileo-cecal valve, and lastly in the duodenum. Most of the cases of sarcoma, myoma and myosarcoma reported occur in the small intestine, while lipoma, adenoma, and fibroma are more commonly found in the colon. Not infrequently the exciting cause of the ileus in primary carcinoma (annular) is the impaction of some undigested portion of food in the narrowed lumen.

Ileus due to other primary neoplasms of the intestines usually results from an acute bending of the tube or intussusception or valve formation. Ileus due to secondary involvement of the intestine occurs most frequently through the inclusion of the sigmoid flexure in a sarcoma or papilloma of the ovary. In primary tumors the carcinoma is always of the glandular type, the sarcoma usually the spindle-celled variety.

The onset of the obstruction is usually quite sudden; the symptoms exactly similar to those of acute mechanical obstruction as described in previous paper. Percussion may in the very early stages demonstrate an area of dullness corresponding to the location of the tumor. In thin subjects the tumor mass can sometimes be palpated. Auscultation has in every case been misleading. The neoplasm may be located by a history of previous pain in a certain region. In a general way severe vomiting directly after the beginning of the obstruction indicates that the neoplasm is high up in the alimentary canal, and *vice versa*.

History usually gives chronic constipation, sometimes intermittent with diarrhea; generally several attacks of obstruction, occurring after indigestible food has been taken, and which passes away in a short time. Quantities of mucus accumulate above the stricture, and are evacuated from time to time. Many cases give a history of repeated blood evacuations. Rarely portions of the tumor, sufficient for diagnosis, are torn off and passed in the feces. Emaciation and cachexia are usually present. The age of the patient is usually over forty years, but a number of much younger cases have been reported.

In young patients, the time between the first distinct symptoms and the final attack is usually only a few months; in older patients perhaps a year.

(1) Strangulated hernia should be eliminated by a careful examination of the umbilical, inguinal, and femoral openings. (2) Volvulus is sudden and violent in its onset, and usually follows trauma. (3) Intussusception is somewhat like volvulus; a mass can usually be felt in the abdomen, and its occurrence usually immediately precedes the attack. (4) Impacted gallstones in the

intestinal canal depends upon a previous history of pain and jaundice. (5) Renal calculi; the pain radiates down to the bladder, the irritability of the latter, the presence of blood in the urine, and the history of the case. (6) Ectopic gestation; the history and local examination differentiates with certainty. (7) Strangulation under adhesions or under a Meckel's diverticulum is so violent and sudden that it can be easily diagnosed. (8) In fecal impaction there is not complete obstruction of gas. (9) Obstruction due to appendicitis or peritonitis accompanying pyosalpinx are so plainly marked in their onset as inflammatory conditions that it is rarely difficult to differentiate. (10) Vomiting of pregnancy. The history is sufficient to clear up the case. (11) Twisted pedicle of ovarian cyst. The onset is usually exceedingly violent, and tumor of considerable size can be distinguished.

Society Reports.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MONDAY, MARCH 4, 1901.

In the absence of the president the meeting was called to order by Dr. Kelly.

Dr. McCrae exhibited two cases of "Severe Anemia."

They were shown particularly on account of some associated symptoms. The first, a man of thirty-eight, came to the hospital complaining of stiffness, with some numbness in the arms and legs. His illness dated back to the summer of 1898, but he had continued to work until March, 1900, when compelled to stop on account of shortness of breath and weakness. The blood examination showed red corpuscles 3,500,000, leucocytes 2000, with 45 per cent. of mononuclears, and an occasional nucleated red cell, and a hemoglobin estimate of 50 per cent. His knee-jerks were exaggerated.

The second case was a patient, fifty-eight years of age, who complained of weakness, numbness of the limbs, and pain along the spine, his symptoms dating back over a period of eighteen months. His blood examination showed 1,900,000 red cells, 48 per cent. of mononuclears, and 48 per cent. of hemoglobin. His knee-jerks were likewise exaggerated.

Dr. McCrae called attention to the recent article of Dr. Wm. Hunter, who suggested that pernicious anemia is often due to foci of suppuration, sometimes even so simple as a carious tooth, and said that the first patient had exceedingly bad teeth. He also referred to the group of spinal symptoms often seen in connection with anemia, and divided these pernicious anemias into three classes—one where anemia is the primary condition, one where the anemia follows changes in the cord, and a third where no symptoms of spinal-cord involvement are found, but evidence of its presence is obtained by microscopic examination.

The treatment in these cases was rest, good food, and the administration of arsenic, but the prognosis was not considered favorable.

Dr. Thayer, in discussing this subject, reported two other cases with spinal-cord symptoms which he had seen within the past year. The first, a man, had developed, in the course of an anemia, a very high degree of ataxia, was bedridden, extremely weak, without control of his reflexes, and was altogether a pitiable object; the second was a woman who had symptoms of anemia last summer that were followed by weakness, shortness of breath, numbness and tingling in the hands and feet, and she had since advanced to a condition almost equal to the first patient.

Dr. Thayer said in regard to the treatment that he had been much interested last spring by a statement of Dr. Cabot that he did not believe arsenic did any good. Dr. Cabot's experience with pernicious anemia has been exceptionally large, but Dr. Thayer was not inclined to accept this view of the value of arsenic. He thought a reference to the Hopkins Hospital records for the past ten years would show that improvement, apparently due to the arsenic, often followed its administration.

Dr. Futcher referred to Hunter's suggestion regarding the cause of pernicious anemia, and said that he had not been very thoroughly convinced that Hunter's cases were really due to involvement of the teeth. He thought it would be important, however, in Dr. McCrae's first case to have the carious teeth attended to.

Dr. Mosher presented "A Contribution to the Study of the Frequency of Gallstones in the United States."

In attempting to determine the frequency of gallstones in this country, Dr. Mosher examined the records of 1655 complete autopsies in which Dr. Welch vouched for the fact that gallstones had not been overlooked, if present. Of the 1655 records examined, 1037 were males, and 618 females; 634 were black, and 1018 white. In 115 cases, or 6.94 per cent., gallstones were present.

The most reliable and accurate statistics on this subject heretofore published, and which allow of comparison, are those of Schröder of Strasburg. Schröder found gallstones in 12 per cent. of the bodies examined.

Studied as to age frequency, the American cases show a gradual and almost uniform rise in the percentage of frequency to the sixtieth year, and the falling off in the group over sixty-one years of age is probably apparent rather than real, inasmuch as a much smaller series of cases was available for estimating the percentage. This confirms the statement usually made that in this country gallstones are more frequent after thirty years of age, and reach their maximum frequency after the fiftieth year.

The percentage of cases occurring in black and white people, respectively, differed as follows: In the 634 blacks gallstones were found in thirty-five, or 5.51 per cent., and in the 1018 whites they were found in eighty, or 7.85 per cent. The conclusion is therefore that gallstones are less frequent in the colored than in the white race.

When considered as regards frequency in the sexes an interesting comparison is to be made with the German statistics. Naunyn stated that gallstones occurred in Germany in 20.6 per cent. of women, or, in other words, that one woman out of every four or five had biliary calculi, while the fre-

quency in men was only 4.4 per cent., or one in every twenty-two or twenty-three. Dr. Mosher found in her cases that the frequency in American men was about 1 per cent. greater than among Germans, but in the women they occurred only in 9.37 per cent., or one woman in every eleven. Naunyn attributed the greater frequency of gallstones in women to the differences in their dress and their physiologic functions, considering tight lacing and pregnancy as important factors, in that they retard the flow of bile, and this permits the formation of gallstones. Schröder, however, found gallstones associated with the tight-lace furrow in about half the cases where this deformity existed, and Dr. Mosher found the tight-lace furrow present in only four of the cases examined—three times in women, once in a man.

Dr. Kelly has recently found in forty-nine unselected cases in which abdominal section was done for other purposes, but in which the gall-bladder was carefully examined, that gallstones were present in 8 per cent. of these, and in looking over the record of these cases afterwards that every one of these women having gallstones had been operated on for myomata or for large ovarian cysts. No causative relationship between the presence of gallstones and the presence of myomata could be determined.

Dr. Mosher related in detail the pathological conditions existing in the 115 cases which had shown the presence of gallstones, and then offered the following conclusions: Gallstones occur less often in the United States than in Germany. Biliary calculi occur more frequently as age advances, being rare before the thirtieth year, and most frequent after the fiftieth year of age. While women have gallstones more frequently than men, the frequency in the women of the United States is only about one-half as great as in Germany. The colored race have gallstones somewhat less frequently than the white.

Dr. Kelly, in discussing this report, referred to it as the first really valuable statistics compiled on the subject in this country. He also spoke of the frequency of gallstones in association with myomata, as shown in the forty-nine cases above referred to, and described his method of removing them. It is his custom now when performing abdominal section for other purposes to examine the gall-bladder and remove such calculi when found.

Dr. McCrae thought that the finding of gallstones in about 8 per cent. of the gynecologic operative cases did not necessitate searching for an explanation of their occurrence in association with myomata, inasmuch as that seemed to be about the percentage of their frequency in all pathologic conditions.

Dr. Opie presented a report on "Diabetes Mellitus Associated with Hyaline Degeneration of the Islands of Langerhans of the Pancreas." He referred to the anatomy of the pancreas and its difference from other glands in the presence of bodies that were first described by Langerhans. These consist of cells of small size, non-granular, and arranged in columns about the lumen, and which differ markedly from the ordinary secreting cells. In stained sections these small cells stand out as islands. In injected specimens of the gland one sees accumulations resembling the glomeruli of the kidney, but having no afferent and efferent vessels. These glomeruli correspond with the islands of cells, and the duct of the gland does not penetrate into these bodies.

Experimental work has demonstrated that the pancreas bears some intimate relation to carbohydrate metabolism. When extirpated sugar accumulates in the blood and is excreted by the kidneys. Even before this experimental work the association of lesions of the pancreas with diabetes was known, and, in view of this work, they may be believed to be the cause of the disease. Most common among these lesions are the pancreatites of various forms. Diabetes does not occur with all cases of pancreatitis, and Dr. Opie has recently published in the *Journal of Experimental Medicine* a report of his investigation to determine if possible whether there was any peculiarity of the lesion in the cases showing diabetes. As a result of this study it appears that the lesion which is the cause of the diabetes in pancreatic cases is a lesion involving destruction of the islands of Langerhans.

In support of this theory Dr. Opie reported a case which had recently come to autopsy. The patient died of pulmonary tuberculosis, but was known to have had diabetes. The pancreas was of about normal size and of the usual color and consistency. No lesion could be made out macroscopically, but microscopically it was found that the islands of Langerhans were seriously involved. The secreting portion of the gland was practically uninvolved.

Dr. Futcher, in discussing this paper, said that he considered it the most important observation on the pathology of diabetes mellitus that has been made in several years. For a good while the pancreas has been supposed to be closely connected in some way with the proper metabolism of carbohydrates in the system, and a number of years ago it was suggested that the pancreatic gland probably produced some ferment that possessed the function of destroying carbohydrates and preventing the appearance of sugar in the urine. Dr. Futcher thought it possible that these islands of Langerhans might be connected in some way with the production of this ferment, if such a ferment exists.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD JANUARY 18, 1901.

THE meeting was held at the University of Maryland Hospital upon the invitation of the Faculty of that institution, the president, Dr. W. J. Todd, in the chair.

Dr. T. A. Ashby, "A Case of Splenectomy."

The patient was a young woman, twenty-three years of age, who was brought to the hospital from Virginia on the 4th of May, 1900. She had been in good health until the week previous. Her family and previous personal histories were good. She had suffered a severe chill, followed by a fever, and her family physician found a large mass in the pelvis, which he took to be an inflammatory tumor. After a consultation they concluded that the case required immediate operation, and sent the patient to the hospital.

I saw her in the evening, and found this large pelvic mass quite boggy and feeling much like a pus tumor. I prepared for an abdominal section

the following day. After chloroform had been administered the tumor was found to be movable in the pelvis, but it could not be pushed out of the pelvis. I was inclined then to change my diagnosis for one of fibroid growth with a pedicle, or an ovarian tumor, as it no longer felt like a pus tumor. On making my incision, however, I found it to be a large dislocated spleen, which had become incarcerated. There was some difficulty in getting the spleen out of the pelvis, and the only thing I could do was to amputate it. It measured about seven inches in its longest diameter and between three and four inches in other meridians—in other words, about three times the normal size of the spleen. Just prior to the operation her temperature was 104°, but on the following morning it had dropped to 101.2°, and during that day reached normal. On the following morning it had risen again, and from that time on she had a very peculiar temperature, ranging from normal to 106°. It would fall with every sponge-bath, but would immediately rise again. There was no history of malaria or typhoid, although the blood was very carefully examined, and it was impossible to account for the fever. About a week after the operation, however, we succeeded in getting a Widal reaction, and from that time on she followed the typical course of typhoid, with an unusual rise and fall of temperature. Whether the removal of the spleen had some influence upon the course of the typhoid that produced such a peculiar temperature chart I am not able to say. It is held by some authorities, I believe, that the spleen has some influence of a protective nature against typhoid; perhaps its removal had some effect upon the fever. The patient remained in the hospital four or five weeks, and then returned home perfectly well. She has now gained some twenty pounds in weight and seems entirely well. The removal of the spleen has had no prejudicial effect.

After her return home five other members of her family passed through attacks of typhoid fever, and one sister died. Her case was the first development in the family, and she must have been in the initial stage of that disease when she came to the hospital. It was probably this that led to the diagnosis of an inflammatory tumor. It is well known now that the spleen is not an organ essential to life, and that it can be removed without danger.

Dr. Thayer: There are some points of a great deal of interest in this remarkable case. I should like to ask whether the spleen was very soft, or whether it presented the appearance usual in acute infections. I should think this must have been a case of the very beginning of typhoid, and if the spleen was not soft, but like that of an acute infection, it might well explain the acute onset of pelvic symptoms.

Dr. Ashby: I am of the opinion that the spleen had been down in the pelvis for a long time. It was quite soft and like that seen in typical malarial fever. Probably the onset of the typhoid caused the rise of temperature, which led her physician to assume the existence of an inflammatory tumor. The examination, showing the presence of a large soft tumor that might possibly contain pus, led me to make an exploratory incision. I opened the abdomen for diagnosis, but expected to remove an ovarian tumor or pus sac.

Dr. L. McLane Tiffany: "Exhibition of Surgical Cases."

DISLOCATION OF THE ASTRAGALUS.—The case I have the honor of showing is interesting simply because of its rapid recovery and of the method adopted to reduce the dislocation. It was a dislocated astragalus that came into the hospital a very few minutes after the accident. He is a large man, weighing 250 pounds, and he jumped from his wagon, alighting upon his foot, which was turned. He came in with the right foot turned very much inwards and the ankle represented on the inner side by a dimple, while the outer side was excessively prominent. Strong extension was made on the front of the foot, so as to open the mortise widely, and the astragalus was pressed back as the assistant brought up the front of the foot. The bone went into place easily, and now, after ten days, he has apparently a very good ankle joint. The ecchymotic condition of the skin is where the outer portion of the articular surface of the astragalus made pressure. The skin was very tightly stretched over it, and looked as if the bone might cut through.

I have been fortunate enough to have three cases of this dislocation in a very short time, and all were corrected in the same way.

Dr. T. C. Gilchrist: "A Case of Molluscum Contagiosum."

I have the privilege of showing a case of rare disease of the skin. It is probably more common in children than adults. This child came into the hospital showing the lesions upon the face and body. The swollen areas usually present a small opening at the summit, and on squeezing them a firm, cheesy substance exudes. They have been likened by Jonathan Hutchinson to drops of wax on the skin. I have seen a fair number of cases of this disease, and the worst ones have been cases occurring in medical men in this city. On section the lesions present an appearance similar to sebaceous gland structure, but they have no relation to these glands, as they begin in the epidermis and extend inwards. The disease has been demonstrated to be contagious, and it can be reproduced artificially, as has been proven by Bulkley of New York, although the parasites have not been demonstrated as yet. The lesions sometimes become inflamed, and may undergo pus formation, but this is due to infection. The disease is not dangerous, but it is something of a nuisance.

Dr. Randolph Winslow: "Exhibition of Surgical Cases."

NEPHRECTOMY.—This woman is twenty-eight years old, and entered the hospital July 10, 1900. She had malaria four years ago, but it only lasted a short time. For five years past she has been having pain in the right side and back, and at times the attacks were very severe. Her appetite was good at all times, and there was no vomiting. The pain was aggravated by exercise, and at times it remained very persistent, running from the lumbar region down the right thigh.

A tumor could be felt on the right side, which gave no pain on palpation. She was quite anemic, and the impression I gained at the time was that she was suffering with a malignant tumor of the kidney. That organ was therefore removed through the peritoneum, and the large cavity left in the abdomen packed with gauze. The tumor is here for observation. It was filled with pus, and there were five calculi, some of considerable size, in the callices of the kidney. She is now in robust health and pregnant.

CYSTIC GOITRE.—Mrs. D., aged thirty-eight years, was first treated at the Presbyterian Eye, Ear and Throat Hospital for a large cystic goitre, injections of 10 per cent. iodoform emulsion being given. As the growth continued to increase in size, she was referred to me by Dr. John R. Winslow, and was admitted to University Hospital on June 27, 1900.

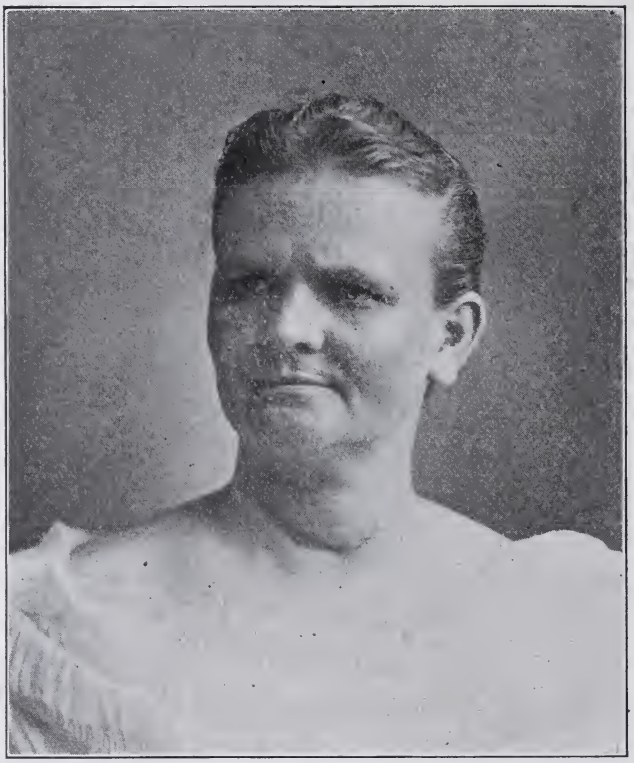
She comes from a family of great longevity, her maternal grandfather having died at the age of ninety-three years, and her maternal grandmother being still living and ninety years old. There is nothing material in her family history or in her past history. She has had three children and two miscarriages, the last one about twelve years ago.

CYSTIC GOITRE.—DR. WINSLOW'S CASE.

The present trouble commenced ten years ago, and has continuously gotten larger. The growth is situated over the trachea, and extends from the larynx to the sternum. It is resilient, and evidently contains fluid. It rises and falls during deglutition and is painless, and not adherent to the overlying skin. It caused an impediment to respiration unless she carried her head well up and back, and there is some interference with deglutition. The voice is somewhat altered. As the patient was incommoded to such an extent as to render her unable to attend to her household duties, I advised extirpation of the tumor, which was done on July 2, 1900.

A curved flap was made at the root of the neck and the goitre exposed. The tumor was cystic, and limited to the right half of the gland. The left half of the thyroid was left in situ. There was perhaps a pint of colloid fluid in the cyst. Ether was first given, and then chloroform substituted, in order to lessen the congestion of the neck. She made an uninterrupted recovery.

Adeno-Cystic Goitre.—C. W., aged twenty-seven years, was admitted to University Hospital on December 28, 1900. Her mother died at thirty-four years of age from the effect of a large goitre; otherwise her family



DR. WINSLOW'S CASE.—AFTER OPERATION.

history is negative. An enlargement of her neck was first noticed when she was three years old, and has been increasing ever since. It now measures sixteen inches in circumference, and interferes with respiration unless she holds her head well back. It does not interfere with deglutition. Her voice is slightly altered. The growth is hard, and is especially prominent over the trachea, but also extends under each sterno-cleido-mastoid muscle.

Under ether anesthesia a curved incision was made at the root of the neck and the gland exposed. The tumor was very vascular, and had numer-

ous large veins coursing over it. The thyroid vessels were ligated at each angle of the growth, but the operation was quite a bloody one. A portion of the left lobe was left, in order to supply thyroid tissue to the system. The tumor consisted of adenomatous growths, with numerous cysts of variable size. The patient suffered considerably for thirty-six hours, and had to be kept in a semi-reclining position. She was kept on a liquid diet for a week. There was quite sharp reaction following the operation, the temperature reaching as high as 103°. She is now about well.

ADENO CYSTIC GOITRE.—DR. WINSLOW'S CASE.

FRACTURE OF THE PATELLA.—This patient had a fall of thirty feet, and came into the hospital with a swelling about the knee and a large amount of exudate in the joint. I opened the joint by a transverse incision and turned out a large mass of clots from the cellular tissue about the knee and from the joint itself. The patella, which was broken into three pieces, was then wired. Dressings were not removed for five weeks, and then the sutures were taken out. You will find the patella quite united. The motions are not quite as free as I would like, but perhaps in the course of time they will improve.

This second man came in just before Christmas with a transverse fracture of the patella. He was discovered to have a large amount of albumen in the urine, and I was afraid to place him under general anesthesia, so Schleich solutions of cocaine were injected into the tissues, and part of the procedure was painless, but part of it he had to bear. He did so bravely, and I wired the patella, which is now firmly united.

Dr. Blake: These are extremely interesting cases. In operating upon the patella, which I think is the proper thing always to do if you want to get satisfactory bony union, I think there is no operation in which there is required a more absolutely thorough asepsis. In the past two or three

DR. WINSLOW'S CASE.—AFTER OPERATION.

years I have ceased to wire the patella. The reason we do not get bony union in fracture of the patella is that we practically never have a simple fracture, but always have laceration of the tissue about it at different angles from that of the bone, and these fragments drop down between the fragments of the bone, so that we have resulting, not bony, but ligamentous union. It is only in rare instances that we get bony union. I have come to believe that fracture of the patella is not different from fracture of any other bone, and that if the fragments of bone are brought to-

gether and all intervening tissue removed they will unite just as well as fracture of the radius, femur or any other bone.

My rule, then, is never to make a transverse incision, but always a semi-lunar incision, and, dissecting back a flap, I expose the fracture, and then, with sterile forceps, I draw up all fragments of broken tissue hanging over the ends of the bone, and clip them off with sterile scissors. I never allow my fingers or anything that is in the least liable to convey germs to the knee-joint to touch the area, for it is the largest joint in the body and the most easily infected. I have the assistants hold the bones together then without allowing their fingers to come near the fractured surfaces of the bones, and with a needle I penetrate the structures immediately above the fracture in the proximal end, and carry it over to the distal end and bring the fragments of bone together with silkworm gut, placing from three to five of these stitches. If there is extravasation of blood and fluid into the joint, I wash it out with sterile water. After that has been done and the fractured ends brought together, I close the flap over it and stitch it from below. I have several cases operated upon in this way that show perfect union and perfect motion of the joint. I cannot recall a single case where the bones have been wired where there has been perfect motion of the joint.

Dr. Johnston: I am very conservative in my operations upon the patella. In simple fracture I think that nine cases out of ten require no operation. We get a result that is practically as good as that following operation, without any danger of infection, and that is an important point in the consideration of this problem. What difference does it make to the patient if there is a quarter-inch between the bones, provided there is a good strong ligamentous band between them and nothing to start up further trouble at any time? The proof that these cases are as serviceable as the others is shown in this, that when such a patella is broken a second time it does not break in the fibrous structure, but in some other part of the bone, and so the ligamentous union is stronger than a bony union would be. A shining example of the value of that form of treatment was shown recently upon the Prince of Wales. He had his patella broken, and he had probably the best advice to be obtained in England. They did not operate upon him. He is getting about now at the same rate and gait he had previously.

Dr. Branham: The point Dr. Blake made about the cause of failure of union is a very good one. Macewen called attention to the fact that this want of union was due to the loose tissue coming up between the fragments, and I think the gentlemen who operate on these cases will find that it is the loose fatty tissue from under the patella, and not any tissue that might come down from above, which interferes with close coaptation of the fragments.

Dr. Martin: I have had eight cases of patellar fractures that came to operation, and I have used the method of freely opening the joint in some by transverse and in others by longitudinal incisions. In all I wired the patella, and in all I have gotten good results. In all the joint was freely opened, the fragments separated, the joints cleaned out, and the intervening tissue was removed. I have found no difficulty in getting the bone together, and have no cause to regret the wiring. I think beyond question it is the operation to give the patient the best results.

Some of these cases have been standing the test for four or five years, and they have perfect flexion and extension, which such patients do not have if left without operation.

Dr. Winslow thanked the gentlemen for their interesting discussion, and in reply to Dr. Blake's inquiry said the cases of fractured patella pursued an absolutely afebrile course.

Dr. Frank Martin: "Nephrectomy Under Spinal Anesthesia, with Pathological Specimen."

The case, briefly stated, is as follows: A woman of thirty-four was brought to me during the summer with a movable, painful kidney. It was cut down upon and the method of packing used to fix the kidney in position, hoping that the mobility of the kidney was the cause of most of her discomfort. She recovered from the operation and went home, but the painful condition did not subside, and she was brought back in November, still suffering a great deal of pain over this kidney. It was then decided to remove the kidney, and as her condition did not warrant the use of a general anesthetic, the new method of subarachnoid cocainization was employed. She had no difficulty following the operation, and we secured a very fair result. The cocaine was placed in the subarachnoid space between the fourth and fifth lumbar vertebrae, 15 minims of a 2 per cent. solution being used. She bore the operation well, having some nausea, but no vomiting. The respirations went up to 60 per minute before the close of the operation, and the pulse also ranged a little high. The gratifying part of it was that the patient made a most excellent recovery without any urinary suppression. The only unpleasant after-effect was a very decided headache for two or three days. The vomiting that has been spoken of in the reports of most of the cases in which cocaine has been used in this way was not present in this case.

I used the method again today in a hernia case, with very good results. Towards the end of this operation, which lasted over two hours, sensation returned and the patient suffered some pain. He was, however, an old alcoholic, not a good subject for general anesthesia, and neuro-regional anesthesia was out of the question because of the great distortion produced by the tumor.

Dr. Stokes: Concerning this kidney tumor, I would say that it is one of great interest, and, I think, of great rarity. The specimen really consists of a tumor of the adrenal glands. The kidney was simply compressed, the tumor having grown down, and caused a cuplike depression of the kidney substance. Such tumors have been studied by Dr. Cullen, who described the main features of them in the March number of the *Johns Hopkins Bulletin* for 1895. The tissue seems to be embryonic, and in this case appears to have degenerated into a sarcomatous mass. In regard to the microscopical structure of the tumor, it is very difficult to say just what it is. Dr. Cullen says that some consider it to be a carcinomatous, some sarcomatous, and others endotheliomatous. I have so far only made a hasty examination, and it seems to me the tumor grows from the cells around the capillary spaces. Surrounding these blood-spaces you find little tufts of cells growing out from the perithelial spaces, which suggests that it may be a perithelial angiosarcoma.

Dr. Young: Dr. Martin's report was very interesting to me because of a case with which he kindly assisted me. It was that of a man of seventy-seven, who had an enlarged prostate and a stone in the bladder. He had considerable arterio-sclerosis, and just the week before we had lost a case under ether from uremia. We injected 20 minims of a 2 per cent. cocaine solution into the cord. We first did a Bottini operation, and then crushed the stone in the bladder. That was a mistake, for the bladder filled with blood and the stone fragments could not be easily removed. At the end of the hour required for the operation the anesthesia had worn out, and the operation was continued with some pain. The complete anesthesia did not last more than thirty-five minutes in that case.

It seems to me from the reports I have read that this anesthesia differs very greatly in different persons, lasting only fifteen or twenty minutes on some people, and from two to three hours on some others.. This may be due to some idiosyncrasy towards the cocaine. It seems to me pretty well established that the method has a wide field of application in old kidney disease or in persons with arterio-sclerosis. My patient had considerable trouble after the operation, particularly with nausea, which followed within four or five hours. He was also very nervous and sleepless, but made a very good recovery.

I was so disturbed about these nervous effects that in a subsequent case of stone in the bladder I operated under eucaine locally, and succeeded in crushing nineteen stones at one sitting. In cases where shock may be a source of danger the local use of eucaine in the bladder may be serviceable.

Dr. Gross: I have used this method of anesthesia in one case, injecting 20 minims of a 2 per cent. cocaine solution. The anesthesia did not begin for thirty minutes, and lasted for about one hour and a-half. Ordinary sensation was not impaired, and the patient could tell the difference between hot and cold water poured into the wound, but he was perfectly insensible to pain, and conversed during the operation. He went to bed in good shape, but during the night was seized with violent pains in the head and along the spinal column. He suffered with violent vomiting and these intense pains throughout the night, but the next day was in good condition again.

Dr. J. Holmes Smith: "A Case of Gallstone, with Pernicious Anemia." (Reported by Dr. Holland.)

Pernicious anemia in the colored race is extremely rare. Cabot of Boston has seen but one case, and I can find no other recorded. Our patient is a girl about twenty years of age, with a good family history. She is one of fourteen children, thirteen living. Her twin brother has always been strong and healthy, while she has always been delicate. In the summer of 1898 she had an attack of colic that was afterwards proven to be due to gallstones. Dr. William Eareckson of Elk Ridge diagnosed the case, and after treating her for awhile, she improved and passed from his care. She came to this hospital last May in a condition of marked jaundice, with a marked anemia. She had palpitation of the heart on the slightest exercise, and had a basic murmur, and also one at the apex. Dr. Smith performed a celiotomy about the first of June, removing a small gallstone, which had evidently acted as a ball-valve to produce occasional distension, with attacks of colic. There was no pus, although she had quite a marked leucocytosis, running as high as 36,000 before the operation, and her tem-

perature had been irregular. The lowest count of red cells was 1,200,000, and the hemoglobin was 35 per cent. The highest count showed a little over 2,000,000, with a hemoglobin of 55 per cent. The color index was a little over 1. Notwithstanding she had all the symptoms of pernicious anemia she stood two laparotomies, the second being for what was supposed to be a collection of pus about the gall-bladder. No pus was found, and her recovery was uneventful. Her condition now is somewhat better than it was when she left the hospital in September.

The case is particularly interesting in the light of a recent theory brought forth by Dana to account for the condition of pernicious anemia, because of the teratological facts in this case, which seem to show that the vitality that belonged to her has gone to the twin brother. Her stomach contents were examined, and found perfectly normal, and though the stools were repeatedly examined, nothing was found to indicate the presence of parasites or an undue number of intestinal bacteria. Dana claims that there is something about the blood which shows a lack of vitality and produces the disease, that the cells may obtain their full growth, but, at the same time, not live their full life-history. An examination of the blood this evening shows about the same condition that existed last August—1,700,000 red cells, with 45 per cent. of hemoglobin and abundant nucleated red cells. In making a differential count I found, with 100 leucocytes, over 100 nucleated red cells, and I think there must have been over 25,000 nucleated red cells to the cubic millimeter.

The largest number Cabot reports is 7000. The majority of them are normoblasts, but that depends somewhat upon the classification you use.

Dr. Hirsh: This is the third case of pernicious anemia that has been in the hospital during the past year, but the other two cases were thoroughly typical. The leucocytosis was very decided in this case, running up at one time, I think, to 82,000. As a general thing it does not exist in pernicious anemia. The large number of normoblasts present in the count was also very remarkable.

Dr. Marden: I would like to ask Dr. Holland whether there was any possibility of his being mistaken about the nucleated red-blood corpuscles in these specimens. May not some of those have been stained leucocytes? In staining blood, if you use an excessive amount of eosine you may get some leucocytes to take up the stain, and under the oil-emersion lens leucocytes oftentimes seem to show a cell wall.

Dr. Thayer: This is a most interesting case. In regard to the question of pernicious anemia in negroes, I do not remember ever to have seen a case that might be called typical, but I have seen several cases of very grave anemia in that race, and I think one was fatal.

It is important to consider just what we mean by pernicious anemia. There is a certain class of cases occurring without apparent cause and showing the characteristic blood changes which may be called typical pernicious anemia. They show a blood in which the individual red corpuscle has a high color index; the leucocytes are diminished or normal in number, and show characteristic changes in their differential proportions, namely, a relatively large number of mononuclear varieties. The nucleated red cells are present, but not, as a rule, in very great numbers, and a

considerable proportion of these nucleated red cells are the megaloblasts of Ehrlich. I think the important cell is a large one, considerably larger than the normal red cell, with a palely-staining nucleus. These large, usually ovoid, cells, with palely-staining nuclei, are very unusual except in true pernicious anemia. I use this last term as referring to that class of cases, and yet there are a considerable number of grave, and even fatal, anemias that do not come definitely into that group, though they may perhaps deserve just as well to be called pernicious anemia as those we describe as typical.

In regard to the number of nucleated red cells in this case, I have never seen but one case that could approach the description given. That case was reported by Stockton two years ago, in which the number was something like this, and I saw a case in 1892 that was studied by Barker, and we counted fifteen nucleated red corpuscles in one field, all normoblasts. At one time, just before death, the condition was like that of lymphatic lucemia.

Dr. Holland: In reply to Dr. Marden, I would say that I think it was hardly possible to make a mistake as to the nucleated corpuscles. It was possible to distinguish with any stain the outline of the protoplasm of the red cell surrounding the nucleus from the outline of the lymphocytes.

Dr. A. D. Atkinson: "Exhibition of a Medical Case."

This case has puzzled us for a diagnosis. He is a worker in bronzes, forty years of age, and has used alcohol more or less freely. His present illness began last June with abdominal swelling occurring after meals, and the patient attributed it to indigestion. Gradually, however, this swelling increased in size, until it assumed pretty large proportions when admitted to the hospital fifty-one days ago. Examination showed nothing abnormal about the heart or lungs. Fluid drawn from the peritoneal cavity was deeply bile-stained. Examination of the abdomen showed a mass in the right upper zone extending from the right costal margin well over to the left side. His blood-count on entrance showed 4,500,000 red cells, but subsequent counts have shown a gradual diminution to 2,500,000, with 13,000 leucocytes. The abdomen has gradually become larger, and he has been aspirated twice, but the fluid is collecting again very rapidly. One of the main symptoms has been pain in the epigastrium.

We have thought that perhaps it is one of those cases of gallstones with malignant complications. About a month ago we had the stools examined, and found fat in them. He has been rapidly losing flesh. In view of the work done by Opie at the Hopkins Laboratory, we may consider whether or not this is a case of gallstones in or about the diverticulum and the septum of the duct, with fat necrosis taking place in the peritoneal cavity. There is, of course, no way to prove this except by abdominal section, and the patient is too weak to permit anything of that kind. There is a well-marked arterio-sclerosis and phlebo-sclerosis. His jaundice has cleared up markedly, and we think the size of the liver has decreased. In daylight his color is now almost that of an individual with Addison's disease.

H. O. Reik, M.D.,
5 West Preston Street.

Book Reviews.

ACCESSIONS TO THE FRICK COLLECTION AND GENERAL LIBRARY OF THE MEDICAL AND CHIRURGICAL FACULTY.

	DATE.
Berkley, H. J., Treatise on Mental Diseases	1900
Black, J. J., Forty Years in the Medical Profession	1900
Blau, L., ed., Encyklopädie der Ohrenheilkunde	1900
Boyce, R., and Sherrington, C. S., ed., The Thompson-Yates Laboratories Report, three vols	1900
Buck, A. H., ed., Reference Handbook of the Medical Sciences	1900
Burton, R., Anatomy of Melancholy, three vols	1893
Butlin, H. T., and Spencer, W. G., Diseases of the Tongue	1900
Cabot, R. C., Physical Diagnosis of Diseases of the Chest	1900
Cripps, H., On Diseases of the Rectum and Anus	1890
Culbreth, D. M. R., A Manual of Materia Medica and Pharmacology	1900
Cullen, T. S., Cancer of the Uterus	1900
Da Costa, J. M., Medical Diagnosis	1900
Deaver, J. B., A Treatise on Appendicitis	1900
Delpeuch, A., La goutte et le rheumatisme	1900
Duncan, J., Angioma, and Other Papers	1900
Eccles, W. McA., Hernia	1900
Ehrlich, P., and Lazarus, A., Histology of the Blood	1900
Ellis, H., Studies in the Psychology of Sex	1900
Fayrer, Sir J., Recollections of My Life	1900
Fenwick, E. H., Ulceration of the Bladder	1900
Fothergill, J., An Account of the Sore Throat	1748
Greene, C. L., Medical Examination for Life Insurance	1900
Hare, H. A., ed., Progressive Medicine, four vols	1900
Hillier, A., Tuberculosis	1900
Hoffmann, A., Die Paroxysmale Tachycardie	1900
Howell, W. H., ed., An American Text-Book of Physiology	1900
Jacobi, A., Proceedings and Addresses at the Complimentary Dinner Tendered to	1900
Jones, H. Macnaughton-, Practical Manual of Diseases of Women and Uterine Therapeutics	1900
Kelsey, C. B., Surgery of the Rectum and Pelvis	1897
Lépine, J., Etude sur les hématomyélies	1900
Lesser, E., ed., Encyklopädie der Haut und Geschlechtskrankheiten	1900
Letchworth, W. P., Care and Treatment of Epileptics	1900
Littré, E., Médecine et médecins	1872
MacCormac, Sir W., Address at Centenary Festival of the Royal College of Surgeons of England	1900
Mathews, J. M., A Treatise on Diseases of the Rectum, Anus, and Sigmoid Flexure	1899
McFarland, J., A Text-Book upon the Pathogenic Bacteria	1900
Montgomery, E. E., Practical Gynecology	1900
Neale, R., The Medical Digest	1891
Neale, R., The Medical Digest, Appendix	1899
Nunn, T. W., Cancer	1899

Orth, J., Pathologisch-anatomische Diagnostik..... 1900
Osler, W., and McCrae, T., Cancer of the Stomach..... 1900
Pagel, J., ed., Biographisches Lexikon, Vol. I..... 1901
Rovsing, T., Klinische und experimentelle Untersuchungen über die infektiösen Krankheiten der Harnorgane..... 1898
Salinger, J. L., and Kalteyer, F. J., Modern Medicine..... 1900
Schoedel, J., and Nauwerck, C., Untersuchungen über die Möller-Barlow'sche Krankheit..... 1900
Souvenir of the Centenary of the Royal College of Surgeons of England 1900
Squire, P., Pharmacopeias of Thirty of the London Hospitals..... 1900
Steven, J. L., Lectures on Clinical Medicine Delivered in the Glasgow Royal Infirmary..... 1900
Taylor, R. W., A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis..... 1900
Teissier, J., Les albuminuries curables..... 1900
Thompson, W. G., A Text-Book of Practical Medicine..... 1900
Transactions of the Royal Academy of Medicine in Ireland, Vol. XVII 1899
Tscherning, M., Physiologic Optics..... 1900
Tyson, J., The Practice of Medicine..... 1900
University of Pennsylvania, Contributions from the William Pepper Laboratories of Clinical Medicine..... 1900
Wilson, Edmund B., The Cell in Development and Inheritance..... 1900

A Reference Handbook of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A new edition, completely revised and rewritten. Edited by Albert H. Buck, M.D. Volume I. Illustrated by numerous chromolithographs and 498 fine half-tone and wood engravings. New York: Wm. Wood & Co. 1900.

Of the text of the first edition of this excellent work but half, we are told, is retained in the second edition. An examination of the first volume shows that the alterations have been very profitable. The subject Anesthesia was covered in the first edition in an article of ten pages. In the present volume are two articles, one on Anesthesia and Analgesia by Edward M. Foote, seventeen pages, and ten pages by Thomas L. Bennett on Anesthetics, with references to later volumes for articles on anesthetic agents and modes of administration.

A 10-page article on Anemia in the first edition is replaced by eleven pages on Secondary Anemia by Richard Cabot, and a six-page article on Pernicious Anemia by John and Frederic Howard.

Instead of the very short article on Bacteria in the first edition, we find in the second edition a very good article, forty-four pages long, by Arthur Guerard.

A long article on Balneotherapeutics is entirely omitted from the second edition, though the subject will no doubt be well treated in a later volume.

Altogether the first volume promises a completed work brought well up to date, and particularly serviceable in private libraries.

MARYLAND MEDICAL JOURNAL.

JOHN S. FULTON, M.D., *Editor.*
HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H. YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, MAY, 1901.

REGISTRATION OF TUBERCULOSIS.

A RECENT meeting of the Clinical Society of Maryland was devoted to the prevention of tuberculosis. Dr. Lawrence Flick of Philadelphia, the guest of the evening, made a strong plea for the registration of tuberculosis, Dr. C. Hampson Jones spoke upon the distribution of tuberculosis in Baltimore, and Dr. W. H. Buckler read a paper on the care of tuberculous patients in the indigent classes. The discussion of the papers was opened by the Health Commissioner, Dr. Bosley, who expressed himself as in favor of an ordinance requiring the registration of tuberculosis. While it has been understood that Dr. Bosley is in favor of such a measure, he has not hitherto expressed his views publicly. His approval was given without any reserve or qualification as to the details of such an ordinance, and since Dr. Bosley's great experience as a general practitioner must have acquainted him with all the objections that practical physicians can have to notification, it may be assumed that he considers them well outweighed by the advantages of notification.

The general discussion, led in a strong sermon by Dr. Osler, was almost confined to the question of registration, as befitted the fundamental importance of this preliminary to any organized fight against tuberculosis. Not a voice was raised in opposition, though one of the speakers alluded to the administrative errors which have led to the failure or hindrance of notification elsewhere.

A noteworthy feature of discussions on this subject within recent years has been the employment of the word registration instead of notification. The general use of this word in connection with tuberculosis seems to indicate a substantial agreement among sanitarians and physicians that notification of tuberculosis is to be given and to be received in some manner decidedly different from the notification of the acute infections. Whether the public will be able to see that a measure of this sort is quite distinct from a notification of smallpox or diphtheria will matter much as regards the success or failure of an ordinance on the subject. Notification of the acute infections very often affects private interests injuriously, and it is said that practicing physicians are more or less influenced by such considerations. If a transitory resentment follows the notification of an acute infection, the proposition to register cases of a chronic disease like tuberculosis may awaken strong popular opposition, and the rank and

file of the profession will not be inclined to actively support such a measure, unless private interests are reasonably protected. The success or failure of registration must depend, first, upon the cheerful co-operation of physicians, and next and chiefly, on the tact and intelligence of public health officials. No disease against which preventive measures are instituted is so affected by variations of circumstance, and consequently no disease is so subject as tuberculosis to diverse methods of handling. Necessarily, therefore, a very large discretion must be left with health authorities.

It is quite impossible to formulate any but the most general rules governing the relations of the authorities to the individual case of consumption. Questions of age, sex, occupation, social condition, residence, environment, stage of disease, and other factors so complicate every separate problem that the administrative difficulties with respect to tuberculosis call for the free judgment of a wise man unhampered by rules. This in turn emphasizes, as hardly another undertaking in public hygiene has emphasized, the need of such sound and stable public policy as is very seldom developed under our political conditions.

If the true signs of the times were apparent at the meeting of the Clinical Society, this city is ready to begin a campaign against tuberculosis with the correct initial move, registration of tuberculosis. Considerable popular interest in the subject may fairly be inferred from the presence at the meeting of a number of prominent laymen.

SOME OF THE BURDENS OF NOTIFICATION.

We have before alluded to the influence which private interest is said to have upon the conduct of some physicians in the matter of notifying infectious disease. When private interest and public duty are in conflict, the private interest being in command of time and place, while the public interest is remote and uninformed, it is not surprising that the issue is often unfavorable to public safety. There are means of conciliating these differences, and we shall speak here of one, and perhaps the most important.

The great majority of notifications result in the interruption of attendance at school. To parents, and often to children, this seems a serious hardship, and one not counterbalanced by public advantage. Oftener than otherwise the notifiable illness has been contracted at school, and while this is precisely the argument upon which the health authorities rightly insist that children from infected houses shall not attend school, it is no less precisely upon this ground that parents deny both the justice and the expediency of excluding children in good health, but living in infected houses, from school. While the practice of health officials in this matter seems right, it does not seem entirely right, any more than the contention of parents is entirely wrong.

The writer recently saw a case of measles in a family of four school children. When informed that the disease must be notified, and that the children could not be admitted to school, it transpired that examinations for advancement were at hand, and that the results of a whole year's

attendance for four children were imperiled. This was not a trifling damage, and it is difficult to believe that the exclusion of these children from school resulted in preponderating benefit to the public. Difficulties of this sort are exceedingly numerous, but they are capable of classification, and of more rational treatment. Obviously, such a work is not one primarily for the Board of Health, but for the School Board. The losses from infectious disease among school children are not so largely apparent in the mortality tables as in loss of time from school. While the health officials regard the lesser problem, loss of life, the school officials are closer to a larger interest in the price of time.

If there were no experience of other cities to serve as guides, an inquiry into this subject would show that systematic medical inspection of schools so far improves the investment of time, to say nothing of life-saving, as to return a substantial profit over the cost of inspection. Consultation between the health officials and the school officials should result, if not in medical inspecton of schools, at least in regulations which would lighten the burdens of notification. The loss of time from school is at present unnecessarily large, and even when loss of time is inevitable, part of the consequent injury is avoidable.

THE REGULATION OF MARRIAGE.

The Indiana legislature has passed the bill designed to prevent marriages of the unfit. A commission, consisting of two good mothers, two notable physicians and one mere lawyer, will prepare a lot of questions to be answered by those desiring to enter matrimonial bonds.

Honest lovers will forthwith prepare to migrate, and so an era of veracity may be in sight for Kentucky.

Chicago, too, is threatened on both sides with an invasion of the too truthful, for the legislature of Minnesota has enacted a similar law. The ante-nuptial ordeal in that State will be both written and physical.

The results of these measures will be awaited with great interest. Dan Cupid's cleverness is, or ought to be, invincible, and he will hardly permit a granny agency, either in Indiana or Minnesota, to discouple the unfit with more than ordinary promiscuity.

DR. VAN GIESEN'S RETIREMENT.

On May 1 Dr. Ira Van Giesen will retire from the Pathological Institute of the New York State Hospitals for the Insane. The State Lunacy Commission finds that the researches of Van Giesen are profitable to the world at large, but not to the State Hospitals.

The goose lays golden eggs, but all the world watches the nest, insomuch that the owners, being unable to pull the goose's leg, will break her neck.

A sleepy farmer wants a cackling hen.

Medical Items.

In a New Hampshire town where scarlet fever is epidemic the national bank has set up a sterilizer and sterilizes all the money taken in.

On April 15 Dr. Gaylord of the New York State Cancer Laboratory made an address to the Johns Hopkins Medical Society upon the protozoon, which he believes to be the parasitic cause of cancer. The assembly hall at Johns Hopkins Hospital was densely packed with a deeply-interested audience.

Dr. Edward Morton Schaeffer, while suffering with melancholia, shot himself and died at his home, 2024 Park avenue, on April 23. Dr. Schaeffer was forty-five years of age, and graduated at the University of Maryland in 1880. He was never robust, and traveled much both in this country and abroad in search of health. As a writer on hygiene and kindred subjects he was always forcible and interesting, and he was a ready and fluent extempore speaker. Dr. Schaeffer was a founder and an ex-president of the Maryland Public Health Association. Delicate health precluded sustained labor of any sort; otherwise, with his broad human sympathy, his strong convictions, and his brilliant gifts of expression, he would have become distinguished as a sanitary reformer.

The American Therapeutic Society meets at Washington, D. C., on May 7, 8 and 9. The following is part of the program: Wednesday, May 8—"Suggestions Concerning the Use of the Metric System in Prescription Writing," Francis P. Morgan, A.M., M.D., Washington; "The Relation of the Pharmacist to the Physician, and the Relation of Pharmacy to Materia Medica and Drug Therapeutics," F. E. Stewart, M.D., New York; "The Industry of Artificial Medical Remedies," J. W. Wainwright, M.D., New York; "Inertness of Petroleum Compounds When Given Medicinally," Robert Reyburn, M.D., Washington; "The Therapeutics of Chronic Heart Diseases and Their Complications," Thomas E. Satterthwaite, M.D., New York; "Principles of Cardiac Therapeutics in Recent Valvular Disease," Eli. H. Long, M.D., Buffalo; "Report of Two Cases of Aneurism Treated by Wiring and Electrolysis," J. N. Hall, M.D., Denver. Thursday, May 9—"Hypnotism: A Practical Demonstration of Its Therapeutic Value," Francis H. Miner, M.D., Washington; "Therapeutic Use of Chloretone," E. M. Houghton, M.D., Detroit; "Heroine in the Treatment of Opium Habit," Smith Ely Jelliffe, M.D., Ph.D., New York; "The Therapeutics of Alcohol," Leon L. Solomon, M.D., Louisville.

To the American Medical Profession:

On October 13, 1901, Rudolf Virchow will be eighty years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee, containing, amongst others, the names of A. Bastian, v. Coler, A. Entenburg, B. Fraenkel, O. Israel, Fr. Koenig, C. Posner, and W. Waldeyer, has been formed to call for contributions, which are to be added to the original "Rudolf Virchow Fund," so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and asks for the sympathy and co-operation of all those engaged in the study and practice of scientific medicine all over the globe. The undersigned have formed a subcommittee for the purpose of making the American profession acquainted with the intentions of the Berlin committee, and urge their colleagues to participate in honoring the very man who has done more, these fifty years, than any other to make medicine a science and international. Subscriptions should be sent to their secretary, who will receipt therefor.

Charles A. L. Reed,
Prest. of the American Medical Association.
Henry P. Bowditch,
Prest. of the Congress of Am. Phys. and Surg.
William H. Welch,
Johns Hopkins University.
Robert F. Weir,
Prest. of the New York Acad. of Medicine.
A. Jacobi, Secy.,
110 W. Thirty-fourth street, New York.

Dr. Thomas H. Buckler died at his home, 1301 Park avenue, on April 21. Dr. Buckler was born in Baltimore in 1812, and graduated at the University of Maryland in 1833. He formed a partnership with his brother, the late Dr. John Buckler, and the two were among the foremost physicians in this part of the country. After the Civil War Dr. Buckler, who was strongly in sympathy with the South, abandoned his practice in Baltimore and lived in Paris until 1891, when he returned to Baltimore. From 1844 to 1852 Dr. Buckler was physician to the Baltimore City and County Almshouse. He wrote an interesting account of the epidemic of cholera which occurred at the almshouse in 1851. While he wrote many articles for the medical journals, he took particular interest in the sanitary welfare of Baltimore. One of his important propositions in 1847 was the introduction of the water of the Gunpowder river as a public water supply for this city. He also wrote several papers about the harbor nuisance, and first proposed to fill up the basin, a scheme which has reappeared at intervals ever since his original paper in 1852.

The 103d annual meeting of the Medical and Chirurgical Faculty of Maryland was held on April 23, 24 and 25 at the hall of the Faculty. At a preliminary session on Tuesday afternoon there was a reception by the president, Dr. Theobald, and a demonstration of wireless telegraphy by Prof. W. Simon. At the regular meeting in the evening Dr. Theobald read his presidential address, and Dr. Harry Friedenwald told the story of the ophthalmoscope, illustrated by early publications and historical models. At the Wednesday afternoon session the following papers were read: "Uterine Myomata and Their Treatment," Dr. Thomas S. Cullen; "Intestinal Dystrypsia," Dr. J. C. Hemmeter; "Rabies—Tabulation of Two Hundred Cases Successfully Treated Prophylactically (Pasteur Method)," Dr. N. G. Keirle; "The Practical Value of Blood Examinations in Medicine and Surgery," Dr. T. R. Brown; "Acute Dilatation of the Stomach," Dr. Julius Friedenwald; "Cases of Diarrhea Due to a Parasite Hitherto Unobserved in Maryland," Dr. W. S. Thayer; "Should Cold Baths Be Used for High Temperatures in Children?" Dr. Charles O'Donovan; "A Case of Schönleins Disease—Death from Acute Glomerulo Nephritis," Dr. W. T. Watson; "Herpes Zoster Ophthalmicus Resulting in Loss of the Eye," "Double Suppurative Choroiditis in Association with Purpura Hemorrhagica," Dr. R. L. Randolph; "Some of the Causes of the Acute Insanities," Dr. Stewart Paton; "Some Observations on the Open-Door Treatment of the Insane," Dr. J. C. Clark; "Experience with Chloretone," Dr. Wm. R. Dunton; "The Etiology of Typhoid Fever and Treatment in Private Practice," Dr. Granville E. Dickinson; "A Case of Typhoid Fever Complicating the Puerperal State," Dr. A. G. Barrett. At the Thursday session the following papers were presented: "Tendon Transplantation," Dr. Sydney M. Cone; "A Case of Anthrax of the Face, Operation, Recovery—Exhibition of Patient," Drs. Walter B. Platt and H. C. Ohle; "Report on Renal Surgery, with Special Reference to Nephrectomy in Renal Tuberculosis," Dr. Frank Martin; "Splenectomy for Wandering Spleens," Dr. T. A. Ashby; "Remarks on Twenty-five Fractures Treated in March, 1901," Dr. R. W. Johnson; "Tumors of the Neck Due to Congenital Conditions," Dr. Randolph Winslow; "Mimicry of Pregnancy by Fibroid and Ovarian Tumors," Dr. Howard A. Kelly; "Valvotomy, with Report of Two Cases," Dr. Saml. T. Earle, Jr.; "The Relation of Appendicitis to Rheumatism—Report of Cases," Drs. J. M. T. Finney and L. P. Hamburger; "Catheterization of the Ureters in the Male—Report of Cases," Dr. Hugh H. Young; "A Consideration of the Treatment of Hemorrhoids," Dr. John Turner; "A Case of Squamous-Celled Epithelioma Probably Primary in the Thyroid Gland," Dr. W. M. Lewis; "Blood Changes in Puerperal Eclampsia," Dr. Edward L. Whitney; "Talipes Equino-Varus and Talipes Valgus," Dr. R. Tunstall Taylor; "Treatment of Tubercular Hip Disease," Dr. S. H. McKim; "Bacillus Diphtheriae in Middle-Ear Abscess Followed by Bacillus Pyocyaneus," Dr. C. H. Potter. At the final session on Thursday evening Dr. Walter Reed, chief of the United States Army Medical Commission on the Etiology of Yellow Fever, delivered the annual oration, taking for his subject "Recent Researches in Yellow Fever." The members of the Faculty were invited each day to attend clinics at the College of Physicians and Surgeons, Baltimore Medical College, Baltimore University, University of Maryland, and Johns Hopkins Hospital. Dr. J. McPherson Scott of Hagerstown was elected president.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 6 BALTIMORE, JUNE, 1901 Whole No. 997

A NOTICE OF THE LIFE AND WRITINGS OF VALESCUS DE TARENTA.

By Frederick P. Henry, A.M., M.D.,

Honorary Librarian of the College of Physicians of Philadelphia.

AN ADDRESS DELIVERED BEFORE THE BOOK AND JOURNAL CLUB OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, MARCH 20, 1901.

THE invitation to address you this evening was accompanied with the suggestion of a subject which, at first, I was strongly inclined to accept. It was a description of the Incunabula in the library of the College of Physicians of Philadelphia. Proceeding at once to examine these precious volumes more carefully than I had ever done before, I soon became so exclusively interested in one of them—the *Tractatus de Epidemia et Peste* of Valescus de Tarenta—that I decided to confine myself to its study. Somewhat later I enlarged my subject by including the only other known work of the same author, the celebrated Philonium. In a certain sense the Philonium might be said to be the only work of Valescus, for some of its early editions, among them the one belonging to the College of Physicians, contain the Tractatus; but the first edition of the latter was published about twenty years before that of the former, and is one of the first medical books ever printed; in fact, there is a tradition in the college library that this Tractatus is actually the first printed medical book, and it was for this reason that my attention was first centered upon it.

Postponing for the present the brief review of these works which I propose to make, I will now narrate the facts in our possession concerning the life of their author. He is variously known by the names of Valastus, Valescus, Valesius, and Balescon, the latter being probably his Portuguese cognomen. The discrepancies in the spelling and pronunciation of his titular name are equally great, for it is called Tarenta, Taranta, Tharanta, and Tharare. It is impossible to conclude from the diverse orthography of this latter word whether it is intended to designate an Italian or a French town, for Taranto (ancient Tarentum) is a town in Italy on the north coast of the bay of the same name, and Taranta a town in

the same country in the province of Chieti, while Tarare is a French town in the department of the Rhone. According to Sprengel, Tarenta is in Portugal, but this statement cannot be verified. Eloy states that Valescus styles himself François de Balescon de Tarare in the preface of the Philonium, but this is not true of the edition of that work which I have studied. In it he gives his name as follows: "Nomen autem compositoris est Valescus, gallice Balescon de Tharanta," and humbly declares that he is the disciple of the disciples of medicine—"discipulorum medicinae discipulus." At the end of the prologue he states that the Philonium was begun in 1418, after he had been in the practice of medicine thirty-six years, and on the eve of the festival of St. Barnabas the Apostle: "Inceptus est autem liber iste cum auxilio magni et aeterni Dei post practicam usualem annorum 36 per me Valescum, Anno Domini 1418, in vigilia Sancti Barnabae Apostoli." He then mentions a number of contemporaneous historical events which serve to designate the year in question. The schism, he says, had come to an end, and Pope Martin was in the first year of his pontificate: "Remoto schismate et regnante Domino Papa Martino, anno primo sui Pontificatus." He refers to Martin V (Otto Colonna), who was elected at the Council of Constance, and recognized in France in 1417. John, he continues, was King of Portugal, and occupied in waging war against the Saracens: "In Portugalia regnante Rege Joanne conflictum Saracenis continuo inferendo." John, surnamed the Father of his Country, was in effect King of Portugal from 1385 to his death in 1433. Coming nearer home, he informs us that another John was reigning in the country of Foix and Béarn, but that his mother Isabella was the legitimate ruler of those regions: "In comitatu verò Fuxi et Biarnio regnante Domino Joanne, Isabella matre ejusdem Domina et Comitissa principali existente." According to Astruc, the male line of the house of Foix came to an end with Mathieu de Foix, who died in 1391, when Isabella, his only daughter, transferred the proprietary rights of that house to Archambaud de Grailli, her husband. Archambaud dying in 1412, John, his oldest son, succeeded him under the administration of his mother Isabella, who died in 1426.

In France, Valescus informs us, Charles Alberic was reigning, amid continual wars and tribulations, which were spreading throughout the entire kingdom: "In Francia tunc regnabat Carolus Albricus fidelissimus Rex Francae cum guerris et tribulationibus quae fere in toto regno Franciae invalescebant." The King of France of whom Valescus speaks was Charles VI, whose reign was continually disturbed by the war with England and also by civil wars. The epithet "Albricus" applied by Valescus to Charles has puzzled commentators, among them Astruc, who confesses his inability to understand it. If our author had ended his historical remarks at this point no one could have taken exception to them; but, unfortunately, he continues, and makes a most egregious blunder, for he tells us that John was reigning in England, and

VALESCUS DE TARENTA.

at that time was besieging Rouen: "In Anglia regnante Domino Joanne pertunc in Normandia militante et obsessionem super Rothomagum possidente." King John of England had been dead for exactly two centuries (he died in 1216), and Henry V—Shakespeare's "warlike Harry"—was King of England and had conquered at Agincourt, on October 25, 1415, three years before the memorable eve of St. Barnabas on which Valescus began his book. It would almost seem as if the proper name "John" had become hopelessly entangled in the convolutions of Valescus' brain and he were suffering from a species of echolalia. Since he was in the habit of designating a particular day by the name of its patron saint rather than by its place in the Julian calendar, he must surely have learned to associate St. Crispin's day with the memorable victory of Henry V. Be this as it may, it is evident that, as far as the French people were concerned, Henry's prediction that the names of those who fought at Agincourt would be "familiar in their mouths as household words" had not yet been fulfilled.

Thus far very little has been said concerning Valescus himself, and, it must be confessed, because there is very little to say. We have, however, certain facts concerning his nativity, his standing as a physician and his personal appearance. According to Ranchin, who was elected chancellor of the Faculty of Montpellier on the death of André du Laurens in 1612, Valescus was a native of Portugal, and accustomed to spend his annual vacations in that country. I give this statement on the authority of Astruc, who omits to mention in which of Ranchin's writings it is to be found. The name Balescon, *latine* Valescus, is also indicative of Portuguese or Spanish descent. With reference to his professional standing, there are four statements to the effect that he was physician-in-chief to the King of France, Charles VI. The first of these is to be found in a copy of the Tractatus de Epidemia et Peste, published before 1475, to which reference will again be made. The second is in Castellanus, who says concerning Valescus: "Tradunt etiam Archiatrum fuisse Regis Gallorum." The third is in Vanderlinden, who thus relates his name and style: "Valescus de Tarenta, Monspeliensis, Protomedicus Regis Franciae Caroli VI, subquo claruit, et Sigismondo Caesare atque Martino V Papa A. C. 1417 * * * vixit circa 1380." The fourth is in an oration entitled "Apollinis Monspeliensis Bibliotheca habita in augustissimo Apollinis fano pro suprema Apollinari Laurea Guillelmi Pelissier Monspeliensis," November, 1765. In this oration Valescus de Tarenta is mentioned as "Caroli VI Archiatrus."

The facts concerning his personal appearance are much more definite, for we have his portrait.*

In the frontispiece of the fifth volume of the Ephémérides Médicales de Montpellier there is a lithographic portrait of Valescus,

*For the photograph of Valescus, copied from a lithograph in the fifth volume of the Ephémérides Médicales de Montpellier, I am indebted to Mr. Charles Perry Fisher, the well-known librarian of the College of Physicians of Philadelphia.

but no indication as to the source from which it was obtained beyond the name of the lithographer. There can, however, be no doubt that the original is in the Salle du Conseil of the medical school in which, according to Eugene Thomas, the portraits of the professors of the ancient university of medicine, as well as those of the modern Faculty, are preserved. The series begins with the year 1239, and in it are contained the portraits of Rabelais and Rondelet, or, as he was called by the author of Pantagruel, the doctor Rondibilis. In his Apollinare Sacrum, which is the name of an address containing the history of the University of Montpellier, Ranchin enumerates the professors whose portraits adorn its walls: "Quorum imagines videtis ad perpetuam memoriam ornamentumque Universitatis," and in the list is the name of Valescus de Taranta.

There can therefore be no reasonable doubt concerning the authenticity of the portrait in the Ephémérides.

The countenance of genius does not conform to any special type. The poet may, like Goethe, have the "front of Jove himself," or exhibit the stigmata of marked degeneration; but the traces of deep and patient thought are the common property of scholars. These, it seems to me, are plainly discernible in the countenance of Valescus de Tarenta.

The above are the only known facts concerning Valescus. We know neither the date of his birth nor that of his death, but since he had been thirty-six years in practice in 1418, it is in the highest degree improbable that he could have seen any of his writings in print.

THE PHILONIUM.

The first edition of the Philonium, printed in Lyons by Cleyn, is dated 1478, but Hain regards this as a mistake, for he says in brackets that it is undoubtedly intended for 1488 ("legend est sine dubio 1488"). The next edition (Hain, 15,250) was also printed in Lyons in 1490, on May 19, by John Trechsel, a German. Another edition was printed in the same year in Lyons, November 20, 1490, by Mathias Husz. A fourth edition, with an introduction by Johannes de Tornamira, was printed at Lyons in 1500 by Nicholas Wolff. Lists of subsequent editions are to be found in Haller, Astruc, Eloy, and in the fifth volume of the Ephémérides Médicales de Montpellier. The later editions of the Philonium are much abridged, the last of them, according to Eloy, being published at Leipsic in 1714. The later editions were not only much abridged, but contained numerous additions in the form of the maxims of Paracelsus. Strange to say, I find no mention by any bibliographer of the edition of the Philonium which I exhibit this evening and which was presented to the library of the College of Physicians of Philadelphia by the late Dr. Samuel Lewis. On this account alone it deserves special mention.

In the description of Incunabula it is customary to quote the introduction, if there is one, or, in its absence, the first and last sentences of the work. This is the practice of Hain and of all bibliog-

raphers of the present day. Of the two sentences mentioned, the last is the more important, because it usually contains the date and place of publication and the printer's name. Proceeding in this matter, I quote the introduction:

"Philonium aureum ac perutile opus practicae medicinae operas dantibus quod Philonium appellatur, consumatissimi medici domini Valesci de Tharanta. Novo ac diligenti examine correctum, novisque et pulchris marginalibus annotationibus exornatum. Introductorius etiam libellus ad practicam medicinae partem domini Joannis de Tornamira."

At the end of the book we find the following: "Explicit utile ac preclarum in practica medicinae opus celeberrimi medici Valesci de Tharanta quod Philonium appellatur, noviter diligenti examine revisum multisque erroribus expurgatum per Victorem Trincavellum Venetum artis medicinae doctorem: necnon introductorium medicinae practicae consultissimi medici Joannis de Tornamira. Venetiis per nobilem virum dominum Lucamantonium de Giunta Florentinum Anno Salutis 1523 tertio nonas Februarii diligentissime impressum."

The copy of the Philonium which I am describing resembles the Lyons edition of 1500 (Hain, 15,252), inasmuch as it contains the introduction, which, by the way, is placed at the end of the book, by Johannes de Tornamira, but it differs from it in four other particulars, namely, in the date, the place of publication, the name of the printer, and the name of the editor. I do not regard the date as so fundamental a point of distinction as the others mentioned, although it is difficult to understand how so many mistakes in the dates of publication of fifteenth and sixteenth century books could have been made. As an illustration of such mistakes I may mention the fact that the date of the oldest copy of the Philonium in the library of the surgeon-general's office is printed 1401—an impossible date—which leaves it uncertain whether the real date of publication was 1491 or 1501, for it is doubtless a misprint for one or the other. As a matter of course, the date, even though misprinted, serves to identify a book; but what date are we to agree upon when there are three, as in Dodonaeus, which bears the date of 1521 on the title page, 1584 at the close of the didication, and 1581 at the close of the preface or "Lectori Salutem?" As regards the other three fundamental particulars above referred to—the name of the printer, Lucas Antonius; the place of publication, Venice, and the name of the editor, Victor Trincavellius—the copy of the Philonium in the possession of the College of Physicians, so far as I have been able to ascertain, is unique. With reference to the editor, I find, on consulting Haller, that Victor Trincavellius was a Venetian and a professor at Padua, whose earliest work (De vena secanda in pleuritide medica ratio) was published at Venice in 1539.

It is impossible, within the limits of this paper, to give an elaborate review of the Philonium, although I think it would command the interest of the scholarly physician. The value attached to this

work by our medical forefathers is best attested by the fact that its publication was continued from 1488 to 1714—that is, for more than 200 years.

Concerning the title of the book, the word Philonium, I was for a short time unable to understand it. The first hint as to its meaning was obtained from that most interesting of books, the Latin Lexicon, in which it is stated that a physician named Philo was the inventor of an eye-salve, called after him *philonianum antidotum*, and, eventually, Philonium. This explanation seemed satisfactory; but, to make it completely so, it was necessary to prove that such a remedy was employed by Valescus. This I was unable to do. No such remedy is to be found in Dioscorides, nor in Cardanus, nor in the tenth book of Haly Abbas, which contains a long list of drugs. After considerable search in old books on materia medica I found in Fernellius a recipe for a compound remedy called Philonium, from which, in all probability, the work of Valescus derives its name, although it seems a singular idea to call a book by the name of a medicament which possesses the following properties:

"Philonium * * * vehementes et acerbos dolores consopit, colicos, nephriticos, atque pleuriticos, somnum accersit, destillationem sistit, tussimque lenit, sanguinis excreationem cohibet."

That an author should call his book by the name of a drug which invites sleep—"somnum accersit"—is certainly remarkable, but seems nevertheless to be the case. The formula for Philonium is as follows:

℞ Croci, ʒv.
Pyrethri, euphorbii, spicae nardi,
Myrrhae, castorii, an, ʒi.
Piperis albi, hyoscyami, an, ʒxx.
Opii, ʒx.
Mellis optimi expumati lib., ii.

Hujus dosis est a, ℈i ad ʒss.

It cannot be objected that this remedy was unknown to Valescus because its formula is taken from a book published in 1581. According to Plantius, a commentator of Fernellius, the above formula was employed by Galen: "Philonii hanc descriptionem, Galeni auctoritate, et usu comprobatum ceteris, author praetulit."

The prologue of the Philonium is of great interest, and chiefly for the following reasons: (1) Because of the contemporaneous historical facts of which the author makes mention and which have been already considered. (2) Because of the whimsical *reasons* there enumerated for dividing the book into seven chapters. These are based upon the mystical properties supposed to be inherent in the numeral 7, or, as Valescus expressed it, "propter multiplices dignitates hujus numeri septenarii." In enumerating them he begins with the most sacred of all the associations of this number: "Septem verba quae dominus noster Jesus Christus, salvator noster, in cruce pendens, locutus fuit," and ends with the seven metals and the seven ages of the world: "Septem metalla, septem aetates mundi." Between the first and last of these *septenarii* there

are twenty others, the most noteworthy being the seven petitions in the Lord's prayer, the seven churches in Asia, the seven ocular tunics, and the seven pairs of nerves. A similar fantastic division was adopted by Gordonius, a predecessor of Valescus in the Faculty of Montpellier—"Il commença d'y enseigner en 1285" (Astruc)—who called his principal book, of which there is a copy in the library of the College of Physicians, the "Lilium Medicinae," and divided it into seven parts, because "in lilio enim sunt multi flores et in quolibet flore sunt septem folia candida et septem grana quasi aurea: similiter liber iste continet septem partes," etc. Other works with similar fantastic titles are the Rosarium Philosophorum of Arnold of Villanova, the Flos Florum, Lumen Luminum, etc.

One of the most curious and interesting chapters in the Philonium is that which treats of leprosy (liber 7, cap. 39). In its treatment he recommends the internal use of serpents, and in proof of their efficacy quotes the case of a blind man to whom they were administered by his wife with the object of poisoning him, but who, instead of dying, recovered his sight: "Habes exemplum de quodam ceco cui uxor dedit serpentes cum aliis cibis ad comedendum ut eum interficeret, quos appositos, cecus comedit, multo sudore emisso, visum recuperavit." He also advises castration in leprosy—not, as might be supposed, for the benefit of the species, but for its curative effect upon the diseased individual: "Cum testiculi toti corpori calorem influant, corpora autem leprosorum frigida sunt et sicca, dico ut remotio testiculorum in leprosis juvat quod cum in lepra sit nimia siccitas, per remotionem testiculorum corpus humectatur et quasi effeminatur et humiditas retnetur."

According to Sprengel, Valescus reports, in the Philonium, a case of hematidrosis. This statement I have not been able to verify, and no such case is reported in the Exempla Rara of Dodonaeus, which are confessedly derived in part from the writings of Valescus. It is true that in Dodonaeus there is the record of a case entitled "Sanguinis ex Poro Fluxus," and a very interesting case it is, but it is certainly not a case of sudor cruentus, and, besides, it occurred in the practice of Dodonaeus himself. Among the numerous cases of hematidrosis contained in the Literatura Medica Digesta of Planquet, none is credited to Valescus.

Our author was evidently a believer in organotherapy, as is proved by his recommendation of the internal use of snakes in leprosy; but he did not limit the employment of organic substances to the domain of internal medicine. In the treatment of suppuration of the ear (liber 11, cap. 53) he advises as a local application the bile of a crow, a vulture, and a tortoise, mixed with human milk: "Valet etiam fel corvi et fel vulturis et fel testudinis mista cum lacte mulieris."

Some of the questions discussed in the Philonium are very curious, and with a mere mention of a few of them I will close my imperfect review of this remarkable book. One of them is an inquiry as to what language would be spoken by children brought

up in a solitary place by mutes: "Quod linguagium loquerentur pueri a mutis nutriti in loco solitario?" His answer is, "none," except what they might invent: "Respondeo ut nullum nisi illud quod ipsi inter se conficerent postquam essent sensus et rationis capaces." Another discussion concerns the reason why the cleaners of cesspools are able to tolerate foul odors: "Quomodo mundatores latrinarum possunt sufferre tot fetores."

The last two examples of obscure subjects discussed in the Philonium show an acquaintance with fundamental facts in the clinical history of calculous disease and gout. The first of them is an inquiry why calculi are found in the kidneys of old people and in the bladders of the young: "Quare in senibus lapis frequentius generatur in renibus pueris vero in vesica." The second, why gout and sciatica are more common in men than in women: "Cur viri frequentius incurrant sciaticam et guttam quam mulieres?"

With this bare mention of some of the subjects treated of in the Philonium I will close my notice—for it is nothing more—of this remarkable book.

TRACTATUS DE EPIDEMIA ET PESTE.

As already stated, there is a tradition in the College of Physicians of Philadelphia that this is the first printed medical book. It is impossible either to prove or disprove such a statement, for the work is not only undated, but without the name of the printer or the place of publication. It corresponds to No. 15,244 in Hain's Repertorium, and heads the list of editions of the Tractatus. There are four editions of this book described by Hain, the first, as just stated, corresponding to the copy in the College of Physicians; the second resembles the first, in that it is without date, place of publication or name of printer; the third edition is dated 1474, and the fourth was printed at Hagenow in 1497 by Henricus Gran. The work was translated into the Catalan language by Johannes Villar, and printed at Barcelona in 1475. I am not thoroughly familiar with the internal evidence which led Hain to regard the undated editions as older than those which are dated. The decision of such a question can only be correctly made by an expert in typography. I have, however, compared this copy of the Tractatus with a book to which Copinger assigns the date of 1463, and it corresponds with it most closely. The work in question is the Speculum de Honestate Vitae, by S. Bernardus (Hain, 2901), and, according to Hain, was printed by Schoeffer. "This precious work is from the Buxheim Monastery, and is printed with the types of the Latin Bible of 1462."* It seems highly probable that the Tractatus of Valescus was printed not later than 1470, for the third edition of the work is dated 1474. The question whether or not it is the first medical book in type might perhaps be decided by anyone having sufficient patience to read the four volumes of Hain's Repertorium, which contains a description of 16,299 Incunabula.

*From a handbook of Incunabula in the Widener branch of the Free Library of Philadelphia.

It is with hesitation that I venture to dissent from the statement, or, rather, the suggestion, of Hain that this copy of the Tractatus was printed by Martinus (or Simus) Flach. According to both Santander and Burger, Flach printed his first book, the Speculum Roderici, in 1475, and, as already stated, the third edition of the Tractatus was printed in 1474.

In the books of the fifteenth and sixteenth centuries it was not uncommon to include in the same volume the works of different authors. In accordance with this practice we find the Tractatus of Valescus in the same volume with the treatises *de Venenis* of Albano and Arnold of Villanova, the book bearing the date of 1487, and the printer being Matthaeus Cerdonis (Hain, 12). The Tractatus was also printed with the treatise of Arnold of Villanova, "de arte cognoscendi Venena—this work (Hain, 1805) was published before the year 1475—and here, as previously stated, we find Valescus spoken of as *regis Frantiae Protomedicus.* Haller mentions but one edition of the Tractatus, which was published at Padua in 1487. This is not contained in Hain's Repertorium. Neither Astruc nor Eloy makes mention of any editions of the Tractatus, either separate or combined with the Philonium or other works, and I may add that neither of these authors is strictly reliable from a bibliographical standpoint, although in all other respects their works are of great historical value.

The Tractatus is divided into twelve chapters, of necessity short, since it contains in all but twenty-seven pages. The first chapter, which treats of the etiology of epidemics, is headed: "*Qualiter et a quibus causis et quo tempore causetur epidemia.*" Avicenna Hippocrates and Rasis (Rhazes) are quoted to prove that epidemics are more prevalent in summer and early autumn: "In tempore calido ut in estate vel autumpni principio." This last sentence deserves particular comment inasmuch as the word "autumpni" contains a superfluous letter. This is in marked contrast to the contractions and elisions which are so common in Incunabula and so perplexing to the reader who is not somewhat versed in paleography.

One of the recommendations in this chapter is eminently adopted to favor the diffusion of contagious disease. It is that the infected person should frequently change not only his bed, but also his room and his house: "Bonus esset si egri crebro mutarent non solum lectum immo cameram et domum ut attraherent aerem novum non tantum infectum sicut est ille ubi starent semper." The influence of the winds in the production of epidemics is considered, and a malign influence attributed to long-continued southerly winds occurring late in autumn. Then the pestilence suddenly arrives: "Tunc merito venit pestilentia maxime si cum istis fuerit mala vel maligna influentia ut cum Saturnus est in domo sua, scilicet in capricorno et aquario, prout modo est, quia nunc XXV Octobris anni millesimi quatercentissimipmi quando iste tractatus fuit compilatus, Saturnus erat in duodecimo gradu capricorni." This is the most interesting sentence in the book, since it is the only

one that contains a date. According to it, the book was written in 1401, about seventy years before it appeared in print.

Cap. II. The second chapter, entitled "*De signis prognosticis et ostensivis epidemiae*," enumerates various phenomena supposed to be prognostic of an epidemic. Among them are fiery signs, "impressiones ignitae," such as comets and falling stars—*Stellae cadentes*—also the unaccustomed appearance of a multitude of animals, such as toads, frogs and locusts. He then mentions certain states of wind and weather which, prevailing either in spring or summer, herald the appearance of an epidemic either in summer or winter. In the last sentence of this chapter is a proof that the term "epidemia" is not used by Valescus in the modern sense of that word, but has a special significance. The sentence is the following: "Unde cum epidemia aliquando veniunt morbilli, aliquando variolae, aliquando obtalmiae (sic) et alia hujusmodi." From our present standpoint there are no diseases to which the term "epidemic" is more applicable than to measles and variola. Additional proof is found in a succeeding chapter that the term "epidemia" as employed by Valescus signifies the bubonic plague.

Cap. III. *De preservatione ab epidemia per aeris correctionem et per recessum a loco in quo est.* First, he advises flight—"et quanto longius * * * sicut ille non moritur in proelio qui non est in eo." Then follow directions for those who are obliged to face the pestilence: "* * * Domus debet esse munda a quibuscunque superfluitatibus maxime quae generant fetorem longe a funerariis et ab aquis stantibus, et orificia latrinarum sint clausa." Early rising in cloudy weather is condemned: "Quando aer est caliginosus seu nebulosus non surgat demane." The resident in a pestilential city is advised to remain in the house: "Non discurrat per villam sed occupetur per domum clausis postis et fenestris cum vitro vel cum panno in cerate ut lux entret et non aer putrefactus." He lays stress upon the prophylactic effect of odorous substances, such as musk and amber: "Ut dicit Avicenna qui docet aerem alterare cum ambra, thure, lignoaloes et similibus." Around the house and inside are to be strewn "rami salicis, thamarisci, quercus, et canarum * * * et rosetur domus cum aqua fontis, aceto, aqua rosata * * * et caveant a usione et conversatione hominum infectorum et tactu et si fiat vertatur facies et odoret acetum."

Cap. IV. *De preservatione ab epidemia per evacuationem.* This chapter opens with directions concerning the methods of expelling superfluous humors—"humiditates superfluas"—which should vary with the age and temperament of the patient and the season of the year. There is no discussion of the reasons for purgation, which is taken for granted, and especially in the case of the plethoric: "Immo etiam confortatur haec mortifera rabies quando invenit corpora repleta." Myrrh, saffon and "aloe cicotrina" are recommended as ingredients of pills. Venesection is advised, particularly in the young and "sanguine:" "* * * vel ad dragmas vel ad uncias, de mediana vel epatica aliquando de splenetica: per

talem enim phlebotomiam cessat ebullitio sanguinis vel colerae in venis vel prohibetur."

Cap. V. *De preservatione ab epidemia cum cibis et potibus.* Foods easy of digestion, "et putrefactioni resistentes," are recommended. It is also advised that the meals be smaller and at shorter intervals than in times when epidemics are not prevalent. Pork and beef are condemned. Birds, except aquatic fowls, are permitted, also rabbit, mutton and hare. A long list of vegetables and fruits, which are either indicated or contraindicated, is appended. It is difficult to understand the advice to refrain from the use of "nectar." "Caveant a nectare propter calefactionem at ebullitionem, et a musto." The term nectar is applied by classical writers to anything sweet or pleasant to the taste or smell, such as honey, wine, milk or the odor of flowers. "Must" is unfermented wine. Bathing is forbidden, but the hands, feet and legs may be washed with water and vinegar. The chapter ends with a quotation from Haly: "Caveat etiam a rebus quae excedunt in dulcedine ut sunt uvae passae, dactili, caricae, zuccara et a confectionibus quae ex iis fiunt nisi sint medicinales."

Cap. VI. *De preservatione ab epidemia per exercitum.* This chapter is the shortest in the book, containing but thirteen lines. It recommends moderate exercise "in loco temperato non in sole calido." The violent exercises which are to be avoided are enumerated: "Caveat a coreis, a luctatione, saltucursus et ab omni actu a quo requiritur hanelitus magnus et frequens."

Cap. VII. *De preservatione ab epidemia per somnum et vigiliam.* Haly is quoted as opposed to sleeping in the daytime: "Sommus diurnus evitetur maxime in hieme et tempore calido dum sunt dies magni." Sleeping after meals is condemned: "Qui post cibum iilico dormiuntur illico gravitatem in corpore patiuntur." Loss of sleep is also to be avoided: "Caveat a superfluis vigiliis qui superflue dessicant et virtutem deiciunt."

Cap. VIII. *De preservatione per accidentia animae.* In this chapter a warning against the evil effect of undue emotion is uttered, such as anger, excessive joy, and indulgence in coitus. Concerning the latter he says: "De coitu autem non facimus capitulum singulare sed, meo consilio, dimittendus est maxime superfluus. Nam qui tempore pestilentiali abutitur coitu cito mortali naufragio periclitatur ut vidi frequenter * * * Si tamen consuevit coire et non tenet regimen strictum * * * fiat consilio Galeni per tanta intervalla ut in usibus coitus nec dissolutionem sentiat et levior seipso videatur factus."

Cap. IX. *De remediis preservativis ab epidemia.* This chapter is unusually interesting on account of the numerous remedies recommended as prophylactic in times of epidemic. Many prescriptions are given, and the merits of each of their ingredients discussed. It seems to have been the custom—at any rate it was the custom of Valescus—to give a reason for the insertion of each ingredient in a prescription, and these "reasons" take up consider-

able space. The first of the numerous prophylactics is the following:

℞ Aloes cicotrini partes, ii.
Croci orientalis, mirrae (sic) ana partem, i.
Sumat omni die quasi ʒss vel ʒi.

An elaborate discussion of the properties of each of the ingredients of this prescription ensues, with quotations from "Halienus" (Haly Abbas), Avicenna, and Alcanzi. He advises the drugs to be administered in pill: "Quia sicut mel est ultimum dulcium sic aloe est ultimum amarorum." Summing up his remarks on these drugs, he says: "Ego autem non immerito adhibeo eis fidem magnum quoniam non vidi aliquem periclitari qui eis uteretur in sex vel septem epidemiis quos cum dei auxilio evasi."

In all, thirteen separate prophylactics are enumerated, of which the most important are bolus armenicus, tyriaca, metridatum, and phlebotomy. Great virtue is attributed to tyriaca, and Avicenna is quoted to prove that those who take this remedy not only do not die of the epidemic, but are not attacked by it: "Ideo Avicenna testatur ut ille qui usus fuerit tyriaca ante infectionem non morietur epidemia, immo evadet ab ea."

Cap. X. *Qualiter sit succurrendum cum actu egrotant.* This chapter begins with the following sentence: "Si jam actualiter aliqui egrotant deus subveniat eis cum sua inextinguibili misericordia," which may be freely translated: "If, in spite of the prophylactic measures recommended, any happen to fall sick, may God help them!" He does not, however, advise a purely expectant method of treatment, for he continues: "Et nos faciamus ea quae in ratione stant et ab actoribus precipiuntur." The floors are to be strewn with the twigs and leaves of the plants previously recommended for this purpose, and sprinkled with water and vinegar. The question of giving laxatives is discussed, and the mildest are given the preference: "Aliqui volunt ut detur medicina laxativa quae, si detur, sit multum debilis sicut est cassia fistula, manna, thamarindi, violae, pruna, reubarbarum (sic) et similia." He himself, he says, seldom uses any evacuating remedies except phlebotomy: "Ego autem non multum utor evacuatione nisi flebotomia." The phlebotomy advised is certainly very moderate, even from the standpoint of the present day. Valescus was no Sangrado: "Ista autem flebotomia fiat moderata usque ad quinque vel sex untias, vel magis vel minus secundum ut videbitur operanti quia sanguis reconditur pro thesauro naturae prout dicit Avicenna."

The free use of water is permitted, or, rather, enjoined: "Detur aqua frigida fontina quantum uno haustu possit trahere quia infrigidat multum."

Among the curious remedies recommended are the following: To a compound electuary composed of numerous vegetable substances he advises the addition of gold filings ("limatura auri") "* * * argenti perlae, safirus, iacintus, smaragdus, os de corde cervi, rasura eboris, coralli albi et rubei * * * et similia cor-

dialia." A prescription which called for gold filings, sapphires, emeralds and coral was certainly not intended for poor patients.

Cap. XI. *Qualiter succurrendum est habita consideratione ad apostema.* This chapter deals with the treatment of the bubo or "apostema," upon the characters of which, according to Valescus, the prognosis depends. These characters are minutely described. A most extraordinary local application is recommended, to wit, the fundament of a live cock, which is to be kept applied until the animal dies. It is to be presumed that the fundament of the animal is to be slit open, although not so stated, for, otherwise, the cause of its death is not apparent: "Secundo gallus vivus osculetur apostema cum culo ejus et culus ejus applicetur apostemati donec moriatur." Live snails are also to be applied, and these are to be followed by leeches and cups. Formulas for embrocations, plasters and other local applications are given, as well as indications for opening the bubo.

Cap. XII. *De dicta in epidemia.* The question of diet is minutely and sensibly treated in the chapter. Suffice it to say that nourishing food, easy of digestion, is advised: "Spiritus autem regenerantur cum bonis cibis facilis digestionis." The author notes the circumstance that patients who force themselves to eat often recover: "Nam multi illorum qui agunt viriliter supra illud, idest supra restaurationem casus appetitus et comedunt violenter, absolvuntur et vivunt."

The treatise closes with the prayer that we may all escape the malign influence of pestilential air: "Ut post longa tempora, bona fine, vitam terminemus."

Tyriaca. Among the numerous remedies prescribed by Valescus there is one deserving of special mention. I refer to tyriaca, upon which Arnold of Villanova wrote a monograph. It is also known as theriaca or theriacum, and is perhaps the most complex even of the remedies in ancient pharmacopeias. Theriaca Andromachi, or Venice treacle, is a "compound of sixty to seventy or more drugs, prepared, pulverized and reduced by the agency of honey to an electuary." It was supposed to be an antidote to the bites of serpents and other wild animals, and, eventually, to poisons in general. The word is used by Pliny, and its etymology is indicative of its putative properties. An elaborate recipe for the preparation of tyriaca is contained in the work of Haly Abbas, of which the College of Physicians possesses a copy.*

It is worthy of note that the use of tyriaca was at one time prohibited in Venice for the reason that its preparation was believed to be impossible. The remedy called mitridatum was also prohibited in that city for the same reason.†

---

*From the library of the late Prof. John Ashhurst.

†. . . . Quis sanam Theriacam aut integrum Mitridatum demonstrabit? Unde sapientissimus Venetorum Magistratus toties ejus compositionem fieri vetuit cum perfici posse non existimaret. Cùm in clarissima urbium haec not potuerint fieri, in nostris tamen non solum civitatibus sed oppidis distribuuntur, medicique, quod admiratione magis dignum est, utuntur.—Cardanus, de Methodo Medendi, 1565, pp. 21, 22.

The marks of the bookworm are visible in the Tractatus, but not in the Philonium. According to Blades, the ravages of this animal have been greatly restricted during the last century, a fact which he attributed to the diminished production of *edible* books. Its devastations are illustrated by a plate in the work entitled "Enemies of Books," by the author just quoted, which represents two leaves of a Caxton almost completely destroyed by the worm. It is not to be wondered at that it has been anathematized by scholars, whose mildest epithets have been "bestia audax" and "pestis chartarum." Blades ends his chapter on the bookworm with the following reference to a statement in Ringwalt's "Encyclopedia of Printing" (1881): "There is now, he says, evidently regarding it as a great curiosity, "in a private library in Philadelphia *a book* perforated by this insect." "O lucky Philadelphians!" exclaims Blades, "who can boast of possessing the oldest library in the States, but must ask leave of a private collector if they wish to see the one worm-hole in the city." This reproach is no longer merited. In the magnificent collection of Incunabula (comprising 501 titles) presented by Mr. Widener to the Free Library of Philadelphia the bibliophile will find frequent opportunities to vex his righteous soul over the irreparable damage inflicted by this *pestis chartarum*.

As we advance in life and, as it pleases us to believe, in wisdom we live more and more in the memory of past events, the outlines of which are gilded by the declining sun. We insensibly become *laudatores temporis acti*, and are partial judges of events in which we ourselves have taken part. There can be, however, no illusion concerning the work done by our medical forefathers—

> "The dead but sceptered monarchs, who still rule
> Our spirits from their urns."

If I have succeeded in inspiring you with additional interest in the work of the fathers, and especially in that of the pious old Portuguese, Valescus de Tarenta, my task will not have been in vain.

BIBLIOGRAPHY.

(1) Eloy: Dictionnaire historique de la Médecine, 1778, Vol. IV.

(2) Astruc: Mémoires pour servir à l'histoire de la faculté de Médecine de Montpellier.

(3) Castellanus: Vitae Illustrium Medicorum.

(4) Vanderlinden: De Scriptis Medicis.

(5) Pelissier: Oration in Astruc.

(6) Ephémérides Médicales de Montpellier, Vol. V.

(7) Thomas, Eugène: Essai historique et descriptif sur Montpellier, 1836.

(8) Hain: Repertorium Bibliographicum.

(9) Dodonaeus: Medicinalium Observationum Exempla Rara, 1521 [1581 (?)]. This book bears date of 1521 on the title page, 1584 at the close of the dedication, and 1581 at the close of the preface, or "Lectori Salutem."

(10) Haller: Bibliotheca Medicinae Practicae, etc., 1776. Notice of Balescon, latine Valescus de Tharanta, Vol. I, p. 454.
(11) Dioscorides: De Medica Materia, Lugduni, 1558.
(12) Cardanus: De Methodo Medendi, 1565.
(13) Fernellius: Therapeutices Universalis, 1581.
(14) Gordonius: Lillium Medicinae, Parisiis, 1542.
(15) Sprengel: Histoire de la Médecine, tome 2, p. 469.
(16) Plancquet: Litteratura Medica Digesta, Tübingen, 1808.
(17) Copinger: Supplement to Hain's Repertorium.
(18) Santander: Dictionnaire Bibliographique choisi du quinzième siècle, 1805.
(19) Burger: Hain's Repertorium Bibliographicum, Register.
(20) Haly Abbas Filius: Liber totius Medicinae Necessaria continens, etc., Lugduni, 1523.
(21) Blades: Enemies of Books, London, 1880.
(22) Volta, Zanino: Delle Abbreviature nella Paleografica latina, 1892.

AN UNUSUALLY LARGE POLYPUS PRESENTING IN THE PHARYNX.

By A. V. Milholland, A.M., M.D.,

Assistant Demonstrator of Diseases of Nose and Throat, University of Maryland.

REPORTED TO MARYLAND LARYNGOLOGICAL ASSOCIATION, MAY 8, 1901, WITH EXHIBITION OF PATIENT.

THE patient, female, twenty-two years, applied at the Maryland University on April 29, 1901, suffering great discomfort, principally of a respiratory character, occasioned by a tumor in her throat. Being a Lithuanian, and speaking no English, she was accompanied by an interpreter, from whom, however, I could elicit very few reliable data, owing to her ignorance and alarm. The history obtained on the following day is of some interest, though I shall first present the objective features of the case.

On depressing the tongue I discovered a large tumor occupying almost the entire pharyngeal cavity, pushing the velum palati forward, dependent from the rhino-pharynx, and reaching below the base of the tongue to the tip of the epiglottis. In order to see the lower end of the growth it was necessary to forcibly depress the base of the tongue, dislodging the tumor, and producing a spasm of the pharyngeal muscles, with choking, which was very alarming to the patient and her attendant. Its lower end was broader in all directions than at the point where it emerged from the rhino-pharynx. It presented the glistening appearance, with the thin,

tightly-drawn mucous-membrane covering of an ordinary polypus, the usual pearl-gray color, however, being supplanted by an almost uniform redness, with small blood-vessels over its surface, and a general hyperemia of the pharynx, the result of a secondary and recent inflammation.

The nose was next examined anteriorly, the right side being found free, and the left completely filled with the characteristic pearly polypoid growth.

Threading the cold wire snare with a loop not quite one and one-half inches in diameter, I passed the loop well down along the base of the tongue, encircling the growth, and tightened it slightly above the level of the soft palate. My intention was to detach the polypus at its seat of origin, wherever that might be, by traction; but finding that impracticable, owing to the amount of force required, I cut through it with one stroke of the wire, the patient coughing it out onto the floor. Several small pieces were next removed from the nose, when I desisted on account of her extreme nervousness. When she returned I got a firm hold of the nasal polypus and dragged out the remainder, which was about half as large as that portion removed by the mouth. These two portions constituted one large growth. Its seat of origin could be distinctly located in the middle meatus, well up under the middle turbinate, and at about the junction of its anterior and middle thirds.

The presence of this immense polypus in her respiratory passages had evidently not suggested to the patient a recourse to treatment until the second night before she presented herself. She then felt a large lump in her throat, which almost choked her and prevented her from eating or sleeping. At the time of examination nasal respiration was entirely obstructed, and on close inquiry she admitted this condition to have existed to a varying degree for several months. Hence we are unable to form an idea as to the time required for the growth to attain such proportions, but evidently it had been confined in the nose and rhino-pharynx for a considerable period, and on the occasion mentioned a portion of it, having overgrown the limitations of the rhino-pharynx, had dropped into the pharynx.

Current Literature.

MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

CHANGES IN THE HEART-MUSCLE IN VARIOUS DISEASES.

Rosenstein (*Zeitschr. für klin. Med.*, 1900, Vol. XXXIX, p. 142) reports an interesting case of a boy, eleven years of age, who died shortly after an operation for coxitis.

The autopsy showed extensive tuberculous destruction of the pelvis and of the femur, moderate pulmonary tuberculosis, and a tuberculous infarct of the left kidney. The heart showed an interstitial myocarditis, and in the apex of the left ventricle a distinct thinning, which was causing a beginning cardiac aneurism. There were no tuberculous lesions to be made out either microscopically or macroscopically in the heart, and Rosenstein therefore, relying also upon Orth's observations in similar cases, concludes that the myocardial changes were consequent upon tuberculous deposits in the heart-muscle which had subsequently been absorbed.

Eisenmengen (*Zeitschr. für Heilkunde*, Vol. XXI) describes two cases of tuberculosis of the myocardium, in both of which a careful autopsy was performed. From these, and the few cases found in the literature, Eisenmenger concludes that the form in which large tuberculous nodules are found in the myocardium are the only ones of any especial significance. The nodules are most frequently found in the wall of the right ventricle, arise generally by extension from a diseased pericardium by way of the lymphatics, and rarely affect the endocardium. Clinically, the symptoms are so misleading and complicated that hitherto no one has been able to make the diagnosis during life. There are, however, two points in the clinical symptom-complex which may be of help in reaching a diagnosis—first, the occurrence of a quickly-appearing and rapidly-disappearing state of collapse, and second, the presence of weak endocardial murmurs, varying both in character and intensity.

Pal, in the same volume of the *Zeitschr. für Heilkunde*, contributes the results of his observations on sixteen cases of poisoning by phosphorus, eleven of which terminated fatally, and were carefully studied pathologically.

His conclusions are: The degeneration of the heart-muscle in subacute cases of phosphorus poisoning is not the cause of death; in those that survive phenomena on the part of the heart may make their appearance, which are the consequences of the poison's

action, the intensity of which depends probably upon the quality of the heart; the falling of the blood-pressure is primarily brought about by changes in the vascular system, while the prognosis is best determined by considering the character of the blood-pressure; the vessel wall still retains its contractility; the cause of death in the acute cases is still undetermined.

Diener, in Vol. XX of the same journal, reports two cases of his own and ten cases from the literature of calcific deposits on the serous membranes of the heart. The condition was always secondary to preceding changes in the pericardium, usually of long duration. Clinically, the symptoms were absent altogether, or so slight that diagnosis during life was absolutely impossible. This is probably partly due to the fact that the calcification is only partial, and partly to the localization of the calcific deposits about the sulcus coronarius, especially on the right side.

Diener also reports a case of partial calcification of the endocardium, which was also practically symptomless during life.

Jacobsthal (*Virchow's Archiv*, Vol. CLIV, p. 351) reports two rare cases of interest. The first was that of a four-year-old girl, who died with symptoms of mitral insufficiency.

The autopsy showed a heart enlarged to about three times its natural size, containing a fibro-myxoma, of hen's-egg size, situated on the left auricle. This tumor had arisen from the deeper layers of the endocardium, was rich in blood-vessels, showed a number of hemorrhages, and, what was especially interesting, contained numerous elastic fibers.

The second case was that of a girl, three weeks old, on the anterior papillary muscle of whose right ventricle numerous yellowish, hard masses the size of the head of a needle were found. The case was by careful examination determined to be one of myocarditis, localized in the papillary muscle, with calcification.

* * *

THE BACTERIAL CONDITION OF THE CITY MILK.

W. H. Park, at the second meeting of the Society of American Bacteriologists, raised the question whether it is possible for health boards to set a limit to the number of bacteria which milk may contain, and above which its sale should be prohibited. This question is especially pertinent, now that the warm weather is commencing, and the physician is called upon to determine many points of great importance in infant feeding.

According to Park, in the coldest weather in New York the milk averages 250,000 bacteria per cubic millimeter, during cool weather about 2,000,000, and during hot weather about 5,000,000. The milk in other large cities probably would give about the same figures. As to the harmful character of such enormous numbers of bacteria in the infant's food, one has but to call attention to the

universal experience of all clinicians that a large number of children sicken on the milk furnished them in summer time, the great majority of whom improve rapidly and markedly when fed upon sterilized milk.

It is practically impossible, Park believes, to state with definiteness the exact number of bacteria in milk which will be detrimental to health, but it is safe to conclude that no more bacteria should be allowed than it is practicable to avoid.

Park believes that by the application of greater cleanliness and sufficient cold, neither of which should add appreciably to the expense, the farmer could furnish milk twenty-four to thirty-six hours old, containing not more than 100,000 bacteria per cubic millimeter, and he thinks that milk containing a larger number than this should not be allowed to be sold.

Of course, the noxious effects of the great number of bacteria are due partly to their own effect direct, and partly to the toxins produced by their growth and multiplication, so that in summer time both these influences render much of the milk, especially that supplied in the poorer portions of cities, distinctly unfit for use.

It seems, therefore, that besides examining the milk for pathogenic bacteria, for richness and purity, health departments should also incorporate the enumeration of bacteria in their duties in this direction, and undoubtedly if such were the case summer diarrhea and various gastric and intestinal disorders in children would be materially diminished.

* * *

The Toxin of the Colon Bacillus. Victor C. Vaughan. *American Medicine*, May 18, 1901, p. 302.

Since colon bacillus is practically always present in milk, the observations of Vaughan are of interest in connection with the preceding abstract. Vaughan worked with colon bacillus derived from cheese, water, and normal feces. The virulence of the organisms was first increased by passage through several animals. Beef-tea cultures were inoculated on beef-tea agar in large Roux flasks. After a sufficiently thick growth had occurred the bacteria were scraped from the surface of the medium, and experiments were made on the separation of the toxin. A summary of the facts obtained is as follows:

1. The toxin is contained within the germ-cell, and does not under ordinary conditions diffuse into the medium. Beef tea in which colon bacillus has been grown does not, after filtration, kill guinea-pigs, while the unfiltered medium is fatal.

2. The toxin is not extracted from the cell by alcohol or ether.

3. Very dilute alkalies do not extract the toxin. After boiling a quantity of the germ substance for five minutes in 0.25 per cent. potassium hydrate, and then centrifugating, the clear supernatant

fluid was found inert, while the material thrown out was highly toxic.

4. The germ substance may be heated to a high temperature (184° for thirty minutes) without destroying its toxin, though the cell wall is broken. Watery emulsions, after this heating, were separated by centrifugation, when both the clear fluid and the precipitate were found fatal to guinea-pigs.

5. Boiling with a 0.2 per cent. solution of hydrochloric acid has little or no effect on the germ or its toxin.

6. Heating for an hour in the water bath with 1 to 5 per cent. hydrochloric acid breaks up the cell wall, and lessens but does not destroy the toxicity. Prolonged heating may render the toxin inert.

7. The toxin as separated from the cell wall by digestion with pepsin and hydrochloric acid is markedly active.

By extracting a quantity of germ growth with alcohol, digesting four days with pepsin and HCl in the incubator, filtering, washing with alcohol, and then drying, a powder was obtained which was found soluble in water which contained enough bicarbonate of soda to render it slightly alkaline. This opalescent fluid, after being boiled, was highly toxic, one-fifth of a milligram being sufficient to kill a guinea-pig of 200 grammes weight. The peritoneal cavity of guinea-pigs killed by this toxin usually contained 2 to 10 c. c. of serous exudate. This exudate was always sterile. It had no destructive effect on the colon bacillus, and produced no agglutination. On the contrary, the germ grew freely in this exudate. Vaughan says "the fact that at least one of the bacterial toxins is a remarkably stable body, and can be obtained in the dry state and permanent form, justifies us in taking a somewhat more optimistic view concerning the probability of ascertaining the chemical constitution of these bodies than that recently expressed by Brieger and accepted by Ehrlich."

* * *

Chorea Senilis. Bischoff. *Deutsches Archiv für klinische Medicine*, 1900, Vol. LXIX, pp. 403-420.

Bischoff reports an interesting case of this rare disease in a patient seventy-three years old, who had an attack of chorea beginning at the age of fifty-four years and continuing up to the time of her death.

Bischoff has carefully collected all other cases of this disease from the literature, sixty-nine in number, from a consideration of which he draws the following conclusions: 1. Men and women are affected in a like degree. 2. Rheumatism and heart disease appear to be rare complications, the latter in only 12.3 per cent. of the cases. 3. In 60 per cent. of the patients the mental abilities are normal. 4. The bilateral affection predominates; the right and left sides are affected with equal frequency. 5. Twenty per cent. of the cases are curable, the cure taking place in a year at the latest.

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

A Study of Prostatic Calculi. Pasteau. *Ann. d. Mal. d. Org. Gen. Urin.*, April, 1901.

There are two classes of this interesting condition:

I. In which the stone is in the prostatic urethra. This is not so uncommon, and can hardly be considered as true prostatic calculus. (a) The simplest cases are those in which the stone is located in the urethra alone, and by distending the urethral walls causes a prostatic pouch. (b) Pear-shaped, having the larger portion in the bladder, and the smaller, or stem, extending into the prostatic urethra. This whole class is of fairly frequent occurrence, and their origin easily understood. Their consistency is either completely phosphatic, soft and friable, or perhaps hard, being encased by urates.

II. These are the rare cases, whose interpretation gives rise to the most discussion. Their situation in the prostate is essentially irregular, and they lie in the prostatic tissue itself. (a) Those connecting with the urethra, and varying from the pouchlike and small to a stone, replacing the entire prostatic tissue. (b) Prostatic calculi, imbedded in the substance of the prostate, but not connected with the urethra.

Quite frequently small, rounded, black concretions, varying in size from a millet seed to a grain of barley, can be found in different parts of the gland. These are enclosed in little cells scattered throughout the gland tissue and completely filling them. They are isolated or gathered together, and present as united or multiple masses. When multiple the individual stones are faceted; as united they are more rare, and may even seem to fill up the entire gland. In other cases they are lodged in absolutely independent cavities at the periphery of the organ; veritable calculous pouches developed at the most dependent portions of the prostatic tissue. The number of intraprostatic calculi is very variable. In one case 130 individual small stones were found. Again, they vary markedly in volume, having reached the size of a hen's egg, and weighing 102 grammes. The chemical composition of the larger calculi is the same as that of the small ones.

Chemical Composition.—The urethro-prostatic and the urethro-vesical are phosphates, urates or uro-phosphates, but the intra-glandular ones, so to speak, have a special composition worthy of mention. They are composed of carbonate of lime, phosphate of lime and of magnesia, or entirely of animal matter around a small phosphatic nucleus.

A gap, pointed out but not studied, is the alteration in the deformed organ and the epithelial changes, which could perhaps be described on the surface of the enclosing pouch. In two cases traces of a suppurative prostatitis, with multiple nodules, were observed.

PATHOLOGY.

A. *Calculi of the Prostatic Urethra.*—These are primary or secondary urates or phosphates. If they originate in situ their chemical composition is homogeneous, but when, as is more frequently the case, they come from the kidney or bladder, then the secondarily deposited salts may be different. The fate of a stone coming into the prostatic urethra from the kidney or bladder is one of three things: 1. It may be expelled from the urethra if small enough; 2. It may fall back into the bladder; or, 3. It may remain and develop into any of the previously-named varieties.

B. *Urethro-Prostatic Calculi.*—These develop in two ways—a pouch primarily, or an enlarging urethral stone primarily. 1. Pouch primarily may be due to trauma, or after the evacuation of an abscess, or even normally there are a series of diverticula, gland orifices or prostatic lacunae, in which a stone may lodge—this last for the small uratic and phosphatic concretions found. 2. A large stone, lodging and destroying tissue as it develops, forms a pouch. In both of the above classes the chemical composition of the stone is urate, phosphate, or both. Consequently, to differentiate between these and the primary intraprostatic calculus which has ruptured into the urethra we have to study their composition.

C. *Intraprostatic Calculi.*—The origin of these stones is independent of the urinary changes, being cut off from the bladder and urethra.

For a long time concretions invisible to the naked eye have been found in the prostatic cul-de-sac of children, and then again after, from the twentieth to thirty-fifth year. They are microscopic, dark in color, at first waxy, and then harder. The contour is well defined. They present numerous concentric circles, the central portion showing a granular aspect. Chemically, these concretions are composed of phosphate or carbonate of lime and magnesia, with much the larger portion of some organic material. They may be transparent, opaque, amber or yellow. Now, the intraprostatic calculi may be purely of organic material, or organic, with some inorganic salts. It then appears rational to attribute to them the same origin as to the glandular concretions.

The formation of these concretions has given rise to many theories—condensation of prostatic liquid, mixture of spermatic fluid and an insoluble proteid substance, amyloid degeneration of the glandular epithelial cells, around which the products of gland secretion form. However this may be, it forms an organic nucleus around which the inorganic salts may gather. The explanation of the formation of salivary and hepatic calculi explains the prostatic ones. Their composition is the same. It is due in the former

cases to an extensive glandular infection. Thus, in the prostate can we ascribe their origin to a similar cause. An extensive prostatitis or prostatic abscess may bring together many intraglandular concretions.

Résumé of Prostatic Calculi:

1. Urinary calculi (quite frequent) are secondary.
2. Intraglandular calculus (rare) form in situ, due to a previous extensive infection of the gland.

* * *

Contusions of the Abdomen. Scudder. *Bost. Med. and Surg. Jour.*, May 2, 1901.

In acute abdominal emergencies, there being often no external wound, the physician is frequently first summoned. Upon him rests grave responsibility, because surgical intervention, to be successful, must be early, perhaps before a complete diagnosis is made. The following somewhat systematic observations seem reasonable in the light of our present knowledge:

Injuries to the Ureters.—Rupture of the ureter following an abdominal contusion is rare. It is caused either by forcing the ureter against the transverse processes of the third, fourth and fifth lumbar vertebrae, or by traction tearing it at its two most fixed portions—a little below the pelvis of the kidney, and at the brim of the bony pelvis. All ruptures are above the true pelvic brim. If no lesion of an abdominal organ complicates ureteral rupture no very grave symptoms will appear, though shock may be present. If so, after it has subsided and a little blood appears in the urine, especially if the amount is small and intermittent and with persistent pain and tenderness in the region of the ureter, the suspicion of a rupture should be very great. If the ureter is torn across, it will take seven days, at shortest, before the retroperitoneal accumulation of urine can be discovered. Unless the peritoneum is involved in these cases there is no great danger to life. If there is complete prolonged obstruction of the ureter an atrophy of the kidney will occur. If there is partial obliteration of the ureter, and the patient lives, after months or years a renal abscess, a pyo- or hydronephrosis or a cystic kidney will form. Wounds of the ureter have very little tendency to spontaneous repair. Wounds of the kidney, on the other hand, heal without great extravasation of urine.

Aspiration of these retroperitoneal cysts is a doubtful measure. Lumbar incision is indicated. If there is no infection the success of the operator depends upon his skill. If, however, infection is present, drainage and a secondary nephrectomy is best.

Rupture of the Bladder.—This is infrequent unless there is fracture of the pelvis, under which circumstances it should always be looked for. The rupture in uncomplicated cases takes place at the posterior and upper part of the bladder. When the muscular portion is not ruptured symptoms may be delayed until a subsequent ulceration perforates it. The following symptoms are common to

both intra- and extraperitoneal forms: Pain in the abdomen referred to the hypogastrium or umbilicus, a feeling of something having given away, difficulty in standing and walking, a certain amount of shock or depression, nausea, rectal tenesmus, at first no desire to urinate, followed by a more urgent one, but inability, catherization bringing away blood, bloody urine or nothing at all. The last may be due to suppression of urine. If rupture is intraperitoneal the shock is greater, and peritonitis follows in a few hours. Laparotomy, peritoneal cavity cleaned if required, intraperitoneal ruptures sutured, extraperitoneal ones drained, are the surgical indications.

Rupture of the Liver.—Blows upon the lower right thorax and falls from a height are the common causes of hepatic rupture. A very small wound may cause fatal hemorrhage. Over 50 per cent. died of hemorrhage within the first twenty-four hours. These wounds have only a slight tendency to cease bleeding spontaneously. The symptoms are severe and continous pain. Both local and general jaundice may appear after the second day. Bile may be found in the urine. Suturing, tamponing and cauterizing have been successfully employed. The healthy gall-bladder is rarely torn.

Contusion of the Kidney.—This, when due to trauma, is usually unilateral. The rupture is rather constantly transverse to the long axis of the kidney—in the grain of its development, so to speak. The damage done may be a simple contusion of the kidney substance, a tearing of the capsule overlying the lacerated kidney, a rupture of the pelvis of the kidney, a tearing of the renal vessels, or a complete crushing of the kidney. In falls and blows upon the lumbar region the hilus of the kidney is torn, and retroperitoneal hemorrhage is present. In crushes from in front the kidney is torn anteriorly, and the hemorrhage usually takes place into the general peritoneal space. Intraperitoneal rupture is more frequent in childhood, due to the smaller amount of perinephritic fat.

Hematuria is one sign of rupture of the kidney, but owing to a blood-clot or something else blocking up the ureter this may be absent. Anuria sometimes follows an injury to one kidney. Pain in the region of injury is usually constant and severe; it may radiate toward groin. Hemorrhage and sepsis are the two dangers to be feared after rupture of the kidney. If the peritoneum is torn the hemorrhage is not restrained by the pressure of the perinephritic tissues. Normal urine is not infective, but upon its entering the peritoneal cavity an infection atrium is present. Hematuria is a very unsafe guide to the amount of hemorrhage that is going on. Alarming hemorrhage may occur entirely extraperitoneally. A tumor will then form rapidly.

The mild cases of kidney contusion usually recover under expectant treatment. Fortunately, these are most numerous. The graver cases do not recover without operation. If there are severe or dangerous symptoms of either hemorrhage or sepsis present, operate in an exploratory way, and be guided by circumstances as

to whether a nephrectomy is to be done or not, remembering that the early nephrectomy is safer than the late one. A partial nephrectomy may be considered. Always examine to find if the other kidney is present, and its condition.

Injury of the Stomach.—Rupture of the stomach, followed by the escape of stomach contents, is rapidly fatal. The anterior wall is the location of most ruptures. A severe lasting pain in the gastric region, anxious facies, some restlessness, nausea, and vomiting of blood is strongly suggestive of stomachic rupture.

Rupture of the Intestines.—The small bowel is the seat of trouble in 75 per cent. of all intestinal ruptures, usually the jejunum and lower ileum. The muscular coat and mucous membrane may be more extensively injured than the serous, or *vice versa*. Be sure that the serous coat is reinforced over the entire injured area of the inner layers. Rupture is most usually due to a crushing of the intestine against the lumbar spine, and a search should be made in operated cases from the seat of the surface contusion back to the spine. Contusions of the gut may lead to peritonitis, though no gangrene nor perforation be present. This is due to the lowered vitality allowing the entrance of organisms. The higher up in the intestinal tract the injury the better the prognosis, because the bacterial flora is more scanty. Shock reduces sensibility to pain. Severe, persistent, localized abdominal pain, appearing after the injury or after shock has subsided, is the most important sign of rupture of the bowel. Tenderness, localized and persistent, is valuable. Absence of liver dullness suggests an escape of gas to the under surface of the diaphragm. A serious drawn appearance of the face suggests a grave difficulty. Persistent pain, tenderness, and early vomiting should lead one to operate.

Laceration of the Spleen.—The signs of internal hemorrhage, together with the greater dullness in the splenic region following an injury to the left hypochondrium and lumbar regions, are sufficient to make a diagnosis of splenic rupture. The large proportion of white corpuscles causes rapid coagulation, hence allowing very little alteration in the area of dullness by turning the patient from side to side. Operation should be done, and may be: 1. Immediate splenectomy. 2. Suture of the torn spleen. 3. Or packing the torn spleen after cauterization. The choice of operation depends upon the condition of the patient and of the spleen.

Injuries to the Pancreas.—Rupture of the pancreas, uncomplicated by injury to other organs, is rare. It is as yet unrecognizable. Signs of shock and collapse, and internal hemorrhage following upon sudden trauma to the epigastric region, is presumptive of pancreatic hemorrhage.

General Considerations.—The traumatism to the abdominal wall may be severe, the resulting injury may be trivial, and *vice versa*. A hollow organ, if distended, is more vulnerable than if empty. The exact direction of the violence is important. The question to be immediately settled following an abdominal contusion is whether or not operative intervention is necessary. The surgeon

today is tempted to explore upon too slight provocation, but it is better to have operated many times and found no lesion than even once to have failed to operate when it might have saved a life.

* * *

LIGATION OF THE CAROTID ARTERY AS AN OPERATION PRELIMINARY TO RESECTION OF THE SUPERIOR MAXILLA. Schlatter. *Phila. Med. Jour.*, April 13, 1901.

It cannot be denied, even by surgeons adept at operative procedures, that the modern technique employed in resection of the superior maxilla is somewhat unsatisfactory both on account of the marked accompanying hemorrhage and the great danger from blood aspiration. One of two methods is employed today for obviating the blood aspiration—either the trachea, after a previously-performed tracheotomy, is protected by gauze or a tampon canula, or the patient is only partially anesthetized, and thus enabled spontaneously to throw out the blood from the larynx. Both methods are unsatisfactory; the first because of the gravity of the prophylactic tracheotomy; the second on account of the regurgitation of non-aseptic blood.

The marked hemorrhage occurring during this operation and its dangerous sequels have actuated many surgeons to undertake, as a preventive operation, the permanent or temporary ligation of the afferent vessels, the ligation in the latter case being one in continuity. Both of these ligations have been employed in the past twenty years by many operators. The external and common carotid have been the ones experimented upon. The opinion of surgeons concerning the favorable influence of this preliminary operation upon hemorrhages seems to be unanimous that reference to the three following cases of preliminary ligation of the carotid would seem entirely superfluous had not Pils asserted that the permanent ligation of the common carotid in operations on tumors had been entirely useless in almost all cases. In the three cases referred to all present at operation were astounded at the slight bleeding. The following comprises a brief summary of the observations on these three resections and a study of the literature on the subject:

1. By the application of a preliminary ligature the hemorrhage, as well as the danger from blood aspiration, is markedly diminished.

2. This ligation is highly recommendable in anemic individuals, and in those whose vitality has been lowered from cachexia and hemorrhages, provided they do not suffer from diseases of the blood-vessels, particularly arterio-sclerosis. Exposing the bifurcation of the carotid in advanced cases is in itself indicated for the purpose of extirpating the lymphatic glands, which in this region are generally the first attacked by metastasis.

3. In by far the most cases ligation of the external carotid alone will suffice. It should be a permanent ligation. Conducted anti-

septically the procedure is without danger. The ligature can be applied by enlarging above the incision which has been made for exposing the bifurcation.

4. In exceptional cases it becomes imperative to ligate the common carotid, which, if done temporarily, seems to be less dangerous than a permanent ligation.

Arterio-sclerosis may contraindicate a preliminary ligation of larger vessels.

Society Reports.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MARCH 18, 1901.

THE meeting was called to order by the president, Dr. Welch.

Dr. MacCallum reported "A Curious Form of Peritoneal Tuberculosis." He referred to a form of tuberculosis occurring in cattle in which large nodules are formed both in the peritoneum and the pleura. These nodules are conglomerated tubercles, covered by a fibrous capsule, and embedded in a new-formed tissue of proliferated connective tissue cells. They increase to such an extent at times that they become pedunculated from their very weight, and hang suspended from the peritoneum in the peritoneal cavity.

Dr. MacCallum exhibited a number of pathological specimens of this nature taken from various animals, and then stated that such a condition is extremely rare in human beings; in fact, he had only found one case recorded. This was reported by an Italian in 1867. The patient died with symptoms of ordinary tuberculosis, but at autopsy the peritoneal cavity was found filled with a yellow exudate, and on removal of this there were found to be a considerable number of tuberculous nodules scattered over the peritoneum. These nodules were in many cases sessile and embedded in connective tissue, but others were hanging by well-formed pedicles. The author described the mode of pedicle formation as a mechanical process, the weight of the nodule drawing out the peritoneal tissue into a pedicle sometimes of considerable length.

Dr. MacCallum then related the history of a case which was seen at the Hopkins Hospital some time ago. It was an elderly woman, who died of symptoms of pulmonary tuberculosis. At the autopsy, in addition to the pulmonary lesions, tuberculous nodules were found in the spleen and liver, and there was a tuberculous meningitis. The peritoneal surface itself was quite smooth, but there were numerous nodules hanging from it into the peritoneal cavity. Many of the nodules had very long pedicles, and in some instances when the nodules were picked up it was possible to cause the fluid contents to flow back down the pedicle into the peritoneal tissue, and even into another pedunculated nodule. Some of them had been cut off from their blood supply until they had a strangulated appearance, and in one instance the pedicle had become detached and the nodule floated free in the cavity.

Microscopically the nodules were found to have the character of caseous tubercles. Towards the center of the nodules the cells were necrotic, and in this zone numerous tubercle bacilli could be found.

In discussing this subject *Dr. Welch* referred to the long controversy that has existed concerning the resemblance of this condition, so common in animals, to human tuberculosis. Virchow believed that they were distinct diseases, but the prevailing opinion has been that some relationship exists, and this has been strengthened by experiments which have shown them to be mutually interinoculative. Dr. Welch also referred to Theobald Smith's work on the differences between the bacilli of animal and human tuberculosis.

In regard to the formation of the pedunculated nodules, Dr. Welch stated that he accepted Dr. MacCallum's explanation as true in part, but would suggest the possibility of another explanation for some of them. There is a circumscribed peritonitis in which a vascularized membrane forms on the peritoneum quite analogous to the membrane in hemorrhagic pachymeningitis. The tuberculous nodules could form in such an adventitious membrane, and it would offer a better explanation for the appearance of some of them. For instance, where a very small nodule has quite a long pedicle it can be hardly supposed that it was formed by its own weight, when associated with it were numerous very much larger nodules with short pedicles or none at all.

Dr. Knox exhibited a specimen of "Lipomyoma of the Uterus." He remarked that lipomata, while common in many parts of the body, are very rare in the uterus, and the combination seen in this case was rather unusual. The patient was a woman, aged sixty-two, the mother of thirteen children, and with a good family and personal history. The first symptoms of any trouble occurred nine years ago, when she had a slight sero-sanguineous discharge which lasted for a few weeks, but was not accompanied by pain. After an interval of seven or eight years the discharge recurred, disappeared within a brief period, and then again reappeared a few weeks before admission to the hospital.

On examination Dr. Kelly found a large mass occupying the pelvis and extending half-way up to the umbilicus. An operation was performed, the tumor removed, and the patient made a slow but uninterrupted recovery, and is in good health today. For some time after the operation there was nothing in the case to suggest anything but an ordinary myomatous uterus, but when the specimen was examined an unusual condition was found.

On making sections it was found that the whole surface was traversed by numerous whitish bands dividing the tumor into lobules, and on scraping the surface minute globules of fat could be pressed out, which is never the case in ordinary myomata. There were no areas of marked softening anywhere in the tumor. On microscopic examination the mass of the tumor was found to be made up of large fat cells enclosed in a network of firm tissue, composed largely of a fibrous tissue, with oval and spindle cells and a considerable amount of granular intercellular particles. The tumor was homogeneous throughout.

Dr. Cullen remarked, in discussion, that although they had been making a systematic examination of all cases of myomata, and had examined now

something over 600 specimens, they had never seen but one of this character. In only one other case was anything resembling it found, and in that instance there were only seven or eight small areas that looked like the tissue found throughout this whole tumor.

Dr. Charles L. Leonard of Philadelphia read a paper on "The Advances Made in Medical and Surgical Diagnosis by the Roentgen Method," and followed this by a very interesting stereopticon exhibition of slides showing skiagraphs of bone lesions and of kidney calculi. Dr. Leonard's work with the Roentgen apparatus has been remarkably good. The cases of stone in the kidney that have been diagnosed by this means were particularly interesting, and Dr. Leonard has become so skilled in the manipulation of this method that he is able not only to determine the number and size of calculi present, but their exact location. Undoubtedly the method is of very great value, but Dr. Leonard emphasized a very important point when he laid stress upon the necessity for having the skiagraphs made by one who is not only thoroughly skilled in the details of such picture-making, but who possesses also the necessary anatomical and surgical knowledge to enable him to properly interpret his findings. H. O. R.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD FEBRUARY 15, 1901.

THE meeting was held at the College of Physicians and Surgeons, and was called to order by the president, Dr. W. J. Todd.

Dr. John R. Winslow: "A Case of Accessory Thyroid Gland."

I have the privilege of exhibiting what I believe to be a rare growth at the base of the tongue. It answers in every way to the description of cases of accessory thyroid gland at the base of the tongue, and I believe there are only twelve or thirteen such cases reported in medical literature. The patient will be brought in, and any gentleman interested in the matter may examine her.

Dr. Harry Friedenwald: "A Mastoid Operation, with Healing Under Blood-Clot—Exhibition of Patient."

The patient I want to show you is one who has interested us in many ways since he came into the hospital on the 11th of December. He then had a fever for a week, with a temperature ranging from 101° to 102.5°. He had some slight rales, with pain in the chest, and Dr. Lockwood thought he was going to develop a pneumonia. An eruption made its appearance over the body, and in a very few days the diagnosis was syphilitic fever. He still presents many of the marks of the eruption on his body. His temperature remained elevated for a week, and then under specific treatment it returned to normal, and the patient seemed to be getting well. At the end of the second week he again complained of severe pain in the head, at first around the mastoid region, and the possibility of mastoiditis was considered. I should have mentioned that the patient had purulent otitis media in both ears, the duration of which was not known. His temperature rose to 105.5°, and during the next few days frequently reached that point. The pain was

very definitely located in the right mastoid region, but the sensitiveness was so diffuse that we hesitated about an operation and awaited developments. Two days later they occurred in the form of a very extensive erysipelas of the head. This attack lasted for two weeks.

Even when he got well of the erysipelas, however, his clinical history did not end, for after several days of normal temperature he again began to complain of intense pain in the right mastoid region, and the diagnosis of acute mastoiditis was very evident. There was some slight swelling and tenderness definitely located about the antrum and the neighborhood of the tip. A mastoid operation was performed, the bone found very much sclerosed, and it was evident his was not a recent otitis, for we never find such a marked degree of sclerosis in fresh cases of otitis, and it always indicates a long-continued process. We found pus in considerable quantity both at the tip and in the cells near the antrum. The parts were thoroughly cleaned and irrigated with a normal salt solution. In order to again try the healing under blood-clot, even under unfavorable circumstances, we allowed the wound to fill up with blood, and sewed up the soft parts. At the second dressing there were a few points where there was a little suppuration, evidently stitch abscesses, and at the end of two weeks the patient had entirely recovered. The otorrhea has disappeared, and the left ear is also well.

Dr. Cone: I would like to ask whether, in healing up under blood-clot, any special precautions were taken to get rid of any pus that might be present, but invisible, before the wound was allowed to fill with blood.

Dr. Friedenwald: Only mechanical means. The wound was mopped out and washed with normal salt solution. No antiseptics were used.

Dr. Cone: This case is a very interesting one to consider in connection with other work that has been done to secure healing under blood-clot—for instance, in osteomyelitis. We have always felt in those cases that we had to treat the wound very thoroughly before allowing it to fill with blood, in order to increase the chances of per primam healing. This case shows that you can get a wound to heal in a very short time under simple blood-clot. I recently had a case of healing of the tibia under blood-clot in one week, but I swabbed out with bichloride, and then washed with normal salt.

Dr. Cohen: Was this wound sewed up without any drainage?

Dr. Friedenwald: Yes.

Dr. Reik: Dr. Friedenwald has secured a very excellent result in this case, and it illustrates very well the value of the blood-clot method. I have used it now in six cases, and in four of these the wound was perfectly healed and the patients discharged at the end of a week. One case showed a partial breaking down of the clot, which drained from the lower part of the wound, and the latter healed with but slight delay, while in the other case the clot broke down completely. When successful we are able to discharge such patients in a week or ten days, whereas if the wound be packed or drained it requires three weeks or more to secure healing. Should the clot break down, as it did in one of my cases, the stitches may be easily removed, the wound cleaned and packed, and the patient is no worse off than if this had been done at the time of the first dressing. It certainly seems desirable to give this method a much wider trial.

Dr. Pancoast: Were any cultures taken in any of these cases reported by Drs. Friedenwald and Reik?

Dr. Friedenwald: Cultures were taken in this case, but I am not able to say at present what was found.*

Dr. Reik: In three of my cases the staphylococcus was found, in one the streptococcus, and I believe no growth was obtained in the other two.

Dr. Bernstein: It strikes me that we are running great risks to allow a wound of that sort to heal up by blood-clot. Occasionally you will get perfect union, but everyone knows the excellent culture medium that blood-clot makes, and when you have the pneumococcus, the staphylococcus or the streptococcus in the wound the risk is great. The operation I have done, and which Koerner and Jansen do, gives quite as brilliant results, and it strikes me it eliminates that very large element of danger, the risk of general infection, from this beautiful medium. The operation is to entirely clean out the bone, do the radical operation, and then perform the flap operation, and drain the ear from the external auditory canal. You sew up the post-auricular wound immediately, and in a case I had in the Maryland University Hospital recently the patient was up and about on the fifth day and discharged on the seventh day. In that case the hearing before the operation was so bad that you had to yell at him, and after the operation he could hear whispered sounds at six feet.

This operation has been universally successful, and Jansen told me last summer that he did not know what a loss meant.

Dr. Friedenwald: I would like to say with reference to the Koerner operation that while it is an excellent operation in the chronic cases where you wish to clean out the whole antrum and middle ear, it is not indicated in cases such as the one described. It is certainly a very much more radical operation than the simple Schwartze operation, and you may destroy some of the functionating parts of the middle ear in doing it. In the typical mastoid operation you simply open and clean out that part of the mastoid which is infected.

The danger of healing under the blood-clot cannot be very great, for it has been tried in quite a large number of cases by Blake of Boston and others, and in Blake's hands its success has been really astounding. It was after reading his report that I tried it, and with the most satisfactory results.

Dr. Bevan: "A Case of Gastrostomy—Exhibition of Patient."

The case before you is one of gastrostomy done for a stricture near the cardiac end of the stomach. The patient was transferred from the medical to the surgical side on December 20. She had been in the hospital before for trouble of a specific character, and there remained well-marked evidences of it. The local indications calling for treatment were intense emaciation, which had been progressive and rapid, with almost absolute inability to swallow. Examination with various probes showed an obstruction thirteen and one-half inches from the teeth, through which not even the smallest probe would pass through; some fluid would pass. An operation to open the stomach and bring its edges up to the margin of the skin wound, and feeding entirely through this, was tried. The progress of the case has been uneventful, except that she has put on flesh with great

*Dr. Friedenwald reported subsequently that the cultures and smears showed mixed infection, staphytococci and streptococci.

rapidity. She almost died on the table because of her great weakness, but is now able to walk about, and takes a great deal of active exercise. What is equally important is that since the operation was performed she has become able to swallow some liquid food, by reason, I suppose, of the rest given to the strictured tissue.

Popliteal Aneurism.—This man entered the house last Monday week, giving the history of syphilis dating back some nine or ten years, for which he had received practically no treatment. Last May he detected a small lump in the popliteal space. In a short time this began to enlarge, and finally attained enormous size, so that when he came in there was an enormous mass occupying this whole space and destroying all normal relations about the knee-joint. The mass was semi-fluctuating, and had an indistinct pulsation. There was no bruit, but the diagnosis was made of a ruptured popliteal aneurism. The incision which you see was made and the mass dissected out. The specimen will be passed around.

The sac had ruptured and the entire space was filled with blood-clot. I saw no free blood, but a tourniquet had been very carefully applied. As rapidly as possible the incision was extended, a double ligature passed around the upper portion of the popliteal, and the sac enucleated until the extreme limit of the dilated vessels was met with, and then these were tied and the mass removed. We have thought it advisable to treat the wound as an open one. The temperature reached at one time 103°, but is now below 100°.

Popliteal aneurisms are of unusual occurrence. In an experience of many years I have met with but two in which the vessels had ruptured, and the conditions were similar to this. They were treated in the same way, and I believe the method is preferable to that more commonly used, of amputation.

Dr. Randolph Winslow: I was very much interested in Dr. Bevan's remarks and in the cases which he has shown. I would like to ask Dr. Bevan whether in the case of gastrostomy the wound leaks, and whether, when food is put into the wound, any of it runs out.

Dr. Bevan: To a very slight extent it does.

Dr. Winslow: I understood you to say you merely stitched the stomach wall to the integument, and did not perform any of the other operative measures as suggested by Carter and others.

Dr. Bevan: No, there was no effort at valve formation.

Dr. Winslow: Was it the intention to have a permanent fistula, or a temporary one?

Dr. Bevan: Merely a temporary one.

Dr. Winslow: Of course, it depends entirely upon what the condition is due to, whether the trouble is malignant, or whether there is a stricture of the esophagus, as I take this to have been. If the condition is malignant, then, of course, the operation is only performed after the patient is unable to swallow, and the fistula is expected to be permanent. In that case I think one of the methods of operation which seeks to form a valve for the purpose of preventing regurgitation through the fistula should be performed. If, on the contrary, the fistula is temporary, and intended only for nutrition until the patient is in condition for further operation, then the method adopted by Dr. Bevan is eminently proper.

If it is to be permanent, I do not think this method should be adopted, as it will certainly leak, cause excoriation of the skin, and the patient will be uncomfortable. It does give a better opportunity to attack the stricture by sounds from below or by means of the string saw. Then the rest, as Dr. Bevan has said, from the irritation of swallowing and of food passing over the inflamed tissue is of vast benefit in these cases. It is probable that Dr. Bevan will have to resort to further procedures for the correction of the stricture. I have operated a number of times—in all but one for acute strictures, the result of corrosive poisoning. In one case I could not establish continuity of the esophagus, and after a year the patient died. In another case, after feeding the child through the fistula for a long time, I succeeded in overcoming the stricture, and sent the child home with a patent esophagus.

Dr. Bevan: I have nothing further to add to the discussion save in the way of explanation. The theory on which the operation was done was that there existed a syphilitic stenosis near the cardiac end of the stomach, and the operation was intended merely for temporary effect and to afford the facilities for dilating from below upwards. With that end in view the operation was made as high up on the stomach wall and as near the cardiac end as we could make it.

Dr. George J. Preston: "A Case of Chorea in an Adult."

This case is unique in my experience, and one that is very difficult to assign to its proper class. His history is briefly as follows: His father died of bronchial trouble, his mother in confinement, and one sister died of pulmonary tuberculosis. Personally he has had the usual diseases of childhood. When about three years of age—and this may be of some importance—he was suddenly awakened from sleep by a fright, and the choreic movements which set in at that time have persisted ever since. You see the movements about the face and head as he sits here, and observe his peculiar gait as he walks. His speech is broken and indistinct, and articulation very peculiar. There is no mental weakness, and a physical examination reveals nothing abnormal. The muscular movement is tolerably constant except when he sleeps. The interesting point in this case is the diagnosis. The movements are choreic, but certainly it is not a case of chorea vulgaris, nor is it a case of fibrilary chorea, the variety described by Dubini as occurring in Italy, nor the electrical chorea belonging perhaps to the class of ordinary habit choreas. In the last year or two I have seen several cases of this distinct habit chorea, and I have a most typical case now under my care in a young girl who has had it during most of her life. The movements are well described as electrical. When sitting quite still, suddenly this quick electric-like movement will occur. Unfortunately, that variety is incurable, and fortunately it is not common. This case does not seem to belong to any of these forms, and it is a question whether it should be classed with the Huntingdon variety. About twenty-five years ago Huntingdon described a class of choreas that were distinctly hereditary. His father and grandfathers had been practicing on Long Island for many years, and had observed a number of cases such as he described. It runs through from two to five generations, begins between thirty and forty years of age, and always has a certain amount of mental complication. The cases run a comparatively short course, and finally terminate in dementia. This

case began in early life, has been running for something like thirty years, and is not interfering with the man's mental condition at all. He has been able to do hard manual labor all his life, and to support a wife and three children.

It does not seem to belong to the class sometimes described as chronic chorea, which is practically identical with the Huntingdon variety, nor to the class of cases known as athetosis, for in both of these there is usually marked mental deterioration. I have seen but one case at all similar to this one, and that was a case of congenital chorea that I described a few years ago, where the movements were like these, but more exaggerated. The movements of the tongue and facial muscles had been of such a nature that that patient had never learned to talk. She was very intelligent, particularly fond of music, learned to play the piano well, and could understand everything that was said to her, but was totally unable to express herself. This man has never been able to learn to write, though he went to school for five years, and progressed as far as the grammar school.

In attempting to make a diagnosis the only thing we can say is that the case belongs to the chorea group. It emphasizes the fact that we cannot speak of chorea as a distinct disease and a complete entity, but must consider it as a symptom-complex—a set of symptoms with varying pathology and symptomatology, but conforming to a general type. None of the choreas have a distinct and decided pathology, but all are symptoms-complex of some general condition which must certainly be a disturbance of the motor cortex.

Dr. Herman: This case is very interesting from the diagnostic point of view, but it would also be interesting if Dr. Preston would tell us what therapeutic measures he has taken. There are certain cases which we cannot classify in a distinct group, especially in nervous diseases, and we then usually have recourse to the term hysteria. It is possible that this is one of the cases in which our inability to classify would lead us to take this course.

Dr. Abercrombie: What effect have acute affections had upon his condition?

Dr. Preston: He has had most of the acute diseases, practically all of those of childhood, and pneumonia, rheumatism, and syphilis, all of them subsequent to the time the choreiform movements began.

In reply to Dr. Herman's question, I would say that the man has not been long in the hospital, and no very definite measures have been tried as yet. The theory of hysteria occurred to me early, but as these symptoms have been going on for thirty years without any abatement, and seem to belong so certainly to the choreic group, I have thought it belonged to that class.

Dr. J. W. Chambers: "Exhibition of Surgical Cases."

Case 1. *Strangulated Hernia.*—This patient was operated on two days ago. About four days ago, while splitting wood, he felt an acute pain in his abdomen, and a lump appeared there. This was followed by a period of vomiting and nausea, and a physician in Havre de Grace sent him into the hospital. He arrived about 8 o'clock Tuesday night. On Wednesday morning the hernial sac was removed, and was found to be a congenital one. I used the Murphy button in closing up the wound, and his recovery

has been good. Stitches were used over the button to reinforce it, for I do not think it is the best contrivance to employ, and I am better satisfied when it is possible to avoid the use of the button. I have had trouble with it at times, and in one case, although the patient did well for six days, it then caused ulceration and perforation. I think the time has about passed for the use of these mechanical methods, and I seldom employ them without rather wishing I had not.

Case 2. *A Fibro-Adenoma of the Breast.*—I merely wish to show this specimen, which is a tumor of the breast, removed from a child of seventeen. It is an immense tumor to remove from a child.

Case 3. This man had a carcinoma removed from the breast eight years ago, and six weeks ago I removed another growth of the same character, exposing the pleura pretty thoroughly. The patient within twenty-four hours was sitting up, in three days was about the room, and was able to leave the hospital at the end of the week. This was against protest, of course, but the wound is practically well. At the operation the lung collapsed for a few moments, but soon filled up with air. I am inclined to think the second growth was independent of the first, as there was no evidence of metastasis.

Dr. Carey Gamble: "Exhibition of Medical Cases."

I have here two cases of enlargement of the heart that are of considerable interest. The first man's history is as follows: He has led a pretty rough life, and had three attacks of inflammatory rheumatism. In addition to that, he has suffered with lues, and had several attacks of urethritis. Eighteen months ago he was taken with a feeling of pain and pressure, as though something were clutching him about the breast-bone, with pain referred to the cardiac area. He was employed up to a year ago at hard labor, but lately has not been able to do much.

He came in January 1 with swelling of the face, hands and feet, and we found an interesting condition of the heart. It is a classical case of aortic regurgitation. You can see the pulsations in the neck and the wave that extends to the anterior axillary line. He has the Corrigan pulse, and the capillary pulse is visible in the finger-nails. When the skin is scratched he has the alternate fading and blushing that is sometimes noted. Over the second space he has a distinct systolic and diastolic murmur, typical in tone, and transmitted into the vessels of the neck. When he first came in there was obliteration of the second sound, but since he has been here the second sound has returned, and is distinct in spite of the murmur.

Case 2. This man has not given us any history of angina-like pain, and the only history of illness we can get is that he had an attack of inflammatory rheumatism four years ago, from which he recovered after a continuous illness of six months. He went for a short time on an oyster boat, where he developed pain in the chest, cough, and swelling of the legs and abdomen. The murmurs are much more complicated than in the other case. He has a thrill, distinctly localized, and presystolic in time. In the second interspace there is a diastolic and systolic murmur transmitted to the left, and a systolic regurgitating murmur propagated towards the axilla. He also has the Corrigan pulse. From his anemia we thought he had involvement of the kidney, but we have not been able to find either casts or albumen in the urine. Probably his life on the bay, with hard labor and

poor food, had much to do with his condition at the time he came in. The provisional diagnosis in this case is that he had first an aortic regurgitation, and probably a stenosis, and regurgitation of the mitral valve.

Dr. Henkel: I would like to ask what the treatment has been in these cases.

Dr. Gamble: Principally rest. They have been kept flat on their backs, and both were given small doses of infusion of digitalis. It seems to have had a good effect. The three things they have had is rest in bed, digitalis, and diet.

Dr. I. R. Trimble: "Exhibition of Surgical Cases."

Case 1. I bring this case simply to show the result of quite a large abdominal incision. Six years ago he was run over by a wagon and was laid up in bed for two months, after which he went back to work at street paving. On the 5th of June last, after an attack of acute pain in the side, he came to the hospital with a distinct fluctuating mass that was made out at the time to be a liver abscess. He refused to be operated upon then, but returned June 30, and an extensive incision was made running down below the anterior-superior spine of the ileum. He was in very bad shape, and we packed the wound, and made a free opening into the liver and another in the gall-bladder. He made an uneventful recovery, except that we cannot find any liver dullness on the right side at all. The large abscess had left the right lobe simply a shell.

Case 2. Three months ago this child had typhoid fever, followed by pneumonia and pleurisy. I saw him with an enormously dilated left chest and dullness up to the second rib. He seemed to be dying of empyema. At the operation we resected two ribs to allow free drainage, and he has gotten along very well, as you see. The lung is expanding, as you can determine by percussion. We did not irrigate in his case.

Case 3. This is an interesting case in two or three respects. The man is seventy-three years old. When a boy about seventeen he was thrown from a horse, and a double-direct inguinal hernia resulted. Four weeks ago he fell downstairs, and when he got up was unable to bend his knee. Examination showed that he had ruptured the quadriceps extensor. It is the only case of the kind I have ever seen. A one-half per cent. solution of cocaine was injected, and the muscle was stitched to the tendon tissue over the knee-cap. I have not tried movement yet, but hope for a good result.

I want to call attention to the action of cocaine in this case. We estimated that he got about one-half grain under the skin, but before he left the table he was delirious, with a pulse of 160, and respirations 45 per minute, and we feared he would die. From the time the cocaine was injected until the knife laid bare the tissues certainly was not more than three minutes.

Case 4. This man is a Baltimore & Ohio brakeman, who, nine weeks before I saw him, received a backward dislocation of the hip. When he came in he moved about with difficulty. A physician had reduced the dislocation, as he thought, but had really dislocated it again forward over the pubes. The bone was gotten back with some difficulty; he was put up in a long splint, and at the end of three weeks was walking around.

Dr. Harvey G. Beck exhibited a rare case of monstrosity (published in Maryland Medical Journal September, 1900). The specimen showed a

number of abnormalities, such as hair-lip, cleft palate, acrania, hydrocephalocele, and spina bifida. The child was a still-born female, weighing 219 grammes, and measuring 27 cm. in length by 24 cm. in circumference of the body. The mother was twenty-five years of age, and her two former labors were of normal character. No history could be ascertained that would suggest an explanation for the monstrosity.

Dr. Keirle exhibited a number of interesting pathological specimens.

Book Reviews.

MANUAL OF PATHOLOGY. By W. M. Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia. Third edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1900.

This book must meet with the hearty approval of instructors in pathology. It is a work especially adapted to the use of students, for it includes not only an excellent presentation of morbid anatomy in general, but also of pathological bacteriology. Bacteriological technic and the technic of post-mortems are frequently wanting in the majority of works on pathology. The importance of correct technic of bacteriological investigation, and its application in such a manner as to be of real value, cannot be too clearly impressed on the student, for it is along these lines that the greatest progress is to be still achieved in the study of the causes of pathological changes. It is high time that more attention should be given in our Americal colleges to systematic observance of a correct technic in carrying on post-mortem investigations. Anyone who has had even a limited experience must be struck by the disregard of proper technic. This is noticeable even in men who stand high in this branch of medical science. It is no wonder that students have crude notions about post-mortem work, and that institutions have difficulty in obtaining autopsies when the bodies are so unnecessarily mutilated.

The pathology of the blood is well presented in this book, and the student should gain from it a clear understanding of this subject, upon which he is usually apt to be confused. The author has certainly accomplished a thoroughly scientific and practical work. The book consists of 793 pages, with 330 illustrations and seven colored plates. R.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. By Arthur R. Cushny, M.A., M.D. (Aberd). Second edition. Philadelphia and New York: Lea Bros. & Co. 1901.

This book is so admirable in every respect that it leaves but little to criticise. In place of the empiricism of so many of the books on this subject we find a rational scientific discussion of the pharmacological action of drugs, and from this deductions as to the indications for their use.

The book is full of careful personal observations, besides containing a careful *resumé* of the important literature, and is in every way a most valuable addition to our list of text-books. B.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Vol. I, octavo, handsomely bound in cloth, pp. 430, 11 illustrations. Per annum, in four cloth-bound volumes, $10. Philadelphia and New York: Lea Bros. & Co. 1901.

The first part of this volume is by J. C. Da Costa, who contributes an article on the Surgery of the Head, Neck, and Chest. He begins with a summary of recent advances in the treatment of goiter. There are well-illustrated descriptions of plastic operations about the face and mouth, and under Surgery of the Chest the treatment of emphyema and pericardial effusions deserves especial mention.

The article on Infectious Diseases is by F. A. Packard, and includes a consideration of Rheumatism, Pneumonia, Influenza, Malaria, Typhoid Fever, the last-mentioned subject being treated in a particularly satisfactory manner and at considerable length. The "Fourth Disease" is described in connection with the Measles-Scarlet-Fever group.

The section on Diseases of Children is by F. M. Crandall, and gives a good résumé of recent literature of pediatrics.

The section on Pathology is by Ludwig Hektoen. It begins with a ten-page summary of the recent literature on cell poisons and anti-poisons, the remainder of the article being devoted to Pathogenic Micro-Organisms, General Pathological Histology, and Tumors.

There is a short article by A. Logan Turner on Laryngology and Rhinology, and the volume concludes with an article by Dr. Robert L. Randolph on Otology, one of the best in the book.

PULMONARY CONSUMPTION, PNEUMONIA AND ALLIED DISEASES OF THE LUNGS. By Thomas J. Mays, A.M., M.D. Price $3. New York: E. B. Treat & Co. 1901.

In this work Mays expounds his well-known views regarding various pulmonary diseases, the fundamental concepts of which, to quote Mays, may be formulated into the following propositions:

"1. That pulmonary phthisis in the large majority of cases is a neurosis, and that pulmonary disintegration is secondary; 2. That any agent, influence or condition which undermines the integrity of the nervous system will engender pulmonary phthisis or some other form of pulmonary disorder; 3. That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to and act through the nervous system; 4. That of special value in the treatment of phthisis is the counter-irritant action of silver nitrate introduced hypodermically over the vagi in the neck; 5. That acute pneumonia and other forms of acute pulmonary disease are closely affiliated with disorder of the nervous system."

Whether the author has or has not confused *post hoc* and *propter hoc* the reader will have to decide for himself, but Mays' volume certainly presents his views of the disease as well as possible under the circumstances, and furnishes many interesting observations, if not conclusive arguments.

B.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, JUNE, 1901.

PHYSIOLOGY AND HYGIENE IN THE PUBLIC SCHOOLS.

It has long been notorious that writers of text-books on physiology and hygiene for use in the public schools of the United States have been so dominated by the intemperate zeal of "temperance" reformers that the hygiene of alcohol, tobacco and narcotics has crowded all other considerations into insignificance. Many States have laws which require all such text-books to pass the censorship of a national organization of women, so that one woman is able to direct the public instruction of millions of children in these subjects, and that woman is neither a teacher nor a hygienist.

We have in Maryland such a law, with the further evil provision that all text-books on the subject must be published in Maryland. An author must therefore make terms with a Northern woman and a Maryland publisher before he can offer a book in this market. The results in Maryland are so bad that many conscientious teachers use the text-books as little as possible, preferring oral instruction to the inadequate and often false matter in the authorized books.

A text-book used in Connecticut, authorized by the reformers, teaches that of all the cases of insanity admitted to our asylums one-half are due to alcohol, while a larger number are due to tobacco. No similar absurdity is found in the Maryland text-books. They show, however, the strong impress of fanaticism.

The two simpler books include in their title pages special reference to the effects of alcohol, tobacco, and narcotics, without mention of any other sort of subject-matter. Each of them bears the printed endorsement of the "Temperance Alliance," and the two books have identical prefaces, which claim nothing except that they are text-books upon stimulants and narcotics. The author has nevertheless shown a syncopated desire to justify the use of the word "Physiology" on his title page.

The Primer contains nineteen chapters. The first three chapters are about joints, bones, muscles, and nerves, and in these twenty-six pages are six pages on alcohol and tobacco. The next five chapters, twenty-two pages, are devoted entirely to alcohol, tobacco, and opium. Then there are nine lessons on the organs, senses, food, etc., sixty pages, and among these are fourteen pages on alcohol. The last chapter is about alcohol and tobacco.

The next book begins with thirty-five pages on bones and muscles and food, the consideration of bones concluding with the effect of tobacco, and the lesson on muscles ending with the effects of alcohol. Next are forty-three pages on alcohol, tobacco, and narcotics; twelve and one-half pages (including illustrations) on digestion, and eight on alcohol and tobacco; fourteen pages on respiration, and two on alcohol; twelve on respiration, and three on alcohol and tobacco; eight pages on the skin; four pages on animal heat, and three on alcohol; seven pages on alcohol and heredity; eighteen pages on the nervous system, and ten on alcohol, tobacco, and narcotics; ten pages on the special senses, with references to the effects of tobacco. If illustrations are subtracted, one-half or more of the matters in these books is found to refer to alcohol and tobacco.

The advanced text-book is, in spite of all sinister influences, a good one. Its history is interesting. It was written in the eighties by the ablest man in America for the task, the late H. Newell Martin. He was assisted by his wife, Hetty Cary Martin, and he could not have found a better collaborator. The book as originally written gave special attention to the abuse of stimulants and narcotics. It was copyrighted by Henry Holt & Co. in 1884, but it could not be sold in Maryland.

The fourth edition, 1886, has the following preface: "This edition has been revised in accordance with the wishes of the Committee of the Woman's Christian Temperance Union of Maryland, who *now endorse and recommend* the book" (italics ours). It was necessary that this book should also have the imprint of a Maryland publisher, so that "Martin's Human Body" is in Maryland, where it was written, called the "Dulany-Martin Human Body." There are in the "temperance" portions of this book intemperate things that Martin would never have written, though there is no outrageously false statement on the subject. Particularly one notices that there are not in this book any small-print references to the fanatical and fantastical literature of alcohol and tobacco such as appear in the intermediate book.

American teachers have submitted long to this sort of duress, but the signs of a strong reaction are now apparent. The organization of reformers is very influential, and its leading spirits are very clever, but there is danger that the cause of temperance will suffer heavily from the impending reaction against intemperate methods.

THE MEDICAL PROFESSION AND THE PROBLEM OF ALCOHOLIC INTEMPERANCE.

Not long ago a circular was widely distributed by the Woman's Christian Temperance Union, asking the aid of physicians to remove as far as possible "all tendencies and temptations toward the formation of the drink habit." The science of medicine has long been a contributor to the cause of temperance, and at the present time offers the best basis of solid argument which has ever been available to the reformer. The medical profession has even a mild touch of the partisan hysteria, as witness the voluminous controversial literature inspired by the widely-misread paper of Atwater.

Medical literature has produced in the last few years an enormous amount of experimental and clinical evidence of the injurious effects of alcohol, and the appeal of medicine for temperance reform bids fair to become a national cry in each of the five leading nations of the civilized world.

In England the activity of professional interest is shown weekly in the leading medical journals by correspondence upon legislation against national intemperance. The attention of all Britain was recently arrested by the report of Clouston to the corporation of Edinburgh, in which the increase of insanity among the working classes of Scotland, amounting to 20.5 per cent. above the average for the five years preceding 1900, was ascribed to the more liberal consumption of whiskey, made possible to workingmen by brisk trade and better wages. After making allowance for all other discernible influences peculiar to the year 1900, he concludes that one-fourth of the increase was due to alcohol.

France has been agitated, as never before, by the enormous increase of alcoholism, and especially by the consumption of absinthe. Professor Folet of Lille thinks that, at the present rate of growth, alcoholism, without the aid of war or disaster, will suffice to reduce France to the lowest rank among nations.

In this country among the ardent advocates of temperance reform one may mention especially Knopf, whose work on tuberculosis has twice won him international honors. This indefatigable campaigner against the Great White Plague regards alcohol as a very powerful ally of the tubercle bacillus. His recent prize essay, "Tuberculosis as a Disease of the Masses," which can be had in quantities at fifteen cents a copy, might profitably be distributed as temperance literature.

Recent studies upon immunity show that the use of alcohol, though leading to a degree of toleration of its own toxic properties, definitely lessens resistance against the infections. Among medical practitioners there is such substantial agreement as to the injurious effects of alcohol on all the organs that no careful clinical history ever omits reference to the use of alcohol. In short, the medical testimony to the magnitude of the drink evil, and to its vast importance as a social problem, is not surpassed by the evidence upon the same subject from all other quarters.

THE SEWERAGE OF BALTIMORE.

The enabling act passed at the recent session of the Maryland legislature, authorizing the city of Baltimore to construct a sewerage system, gave up its little ghost without waiting for the fall elections. It died in utero. The will of the people had nothing to do with the miscarriage. It was said that the sewerage bill would make several strong panels of political fence, and it mattered much who should own the fence. So the people of Baltimore will have to wait for a sewerage system until the lumber is seized by some one strong enough to make a fence and to defend it.

Sewers are the paramount need of the sovereign people, but fences are the paramount need of those whose trade it is to rule a sovereign people.

When some champion valet has outbrawled everybody from the front door to the scullery, Lord Baltimore shall have his doublet braced.

Medical Items.

In Philadelphia whooping cough has been added to the list of notifiable diseases.

The medical inspectors of schools in New Orleans have apparently so overdone their work that the city council has stopped the inspection.

An epidemic of diphtheria is reported as prevailing among horses in the farming country between Geneseo and Conesus Lake, N. Y. It is fatal in all instances.

The State Board of Medical Examiners held their regular semi-annual examination May 15-18. Seventy-nine candidates presented themselves for license to practice.

All of the staff of the New York State Pathological Institute have sent their resignations to the trustees, intending to leave the Institute upon the retirement of the director, Dr. Ira Van Gieson.

Dr. Wm. Osler addressed the joint meeting of the Chicago Medical Society and the Chicago Society of Internal Medicine on May 15, his subject being "The Natural Method of Teaching the Subject of Medicine."

The county board of health for Allegany county will build an isolation hospital and house of observation near the almshouse. There will be three buildings in the enclosure, and the whole will be under the care of the almshouse superintendent.

Dr. Irving C. Rosse, University of Maryland, 1866, died on May 3 at his home in Washington. Dr. Rosse was a Marylander by birth, having been born on the Eastern Shore fifty-four years ago. He was a specialist in mental diseases, and a frequent contributor to the journals.

A new prize fund is in the hands of the trustees of the New York Academy of Medicine, the Edward N. Gibbs Memorial Prize Fund, $10,000, the income of which is to be awarded triennially to the American physician presenting the best original essay on the etiology, pathology, and treatment of the diseases of the kidney.

The recent gales in stock speculation are believed to have increased the death-rate of Chicago. The mortality for the week ending May 4 showed an increase in deaths over the age of sixty of 26 per cent. over the mortality in the same age period for the preceding week, and 24 per cent. over the corresponding week of the year 1900.

A bronze portrait tablet in memory of Dr. George H. Rohé was presented to the Medical and Chirurgical Faculty on Thursday evening, May 23. The gift comes from the Maryland Public Health Association, of which Dr. Rohé was president at the time of his death. The artist was Mr. Ephraim Keyser. Remarks were made by Drs. Friedenwald, Latimer, Brush, Miles, Preston, Fulton.

The report that two cases of leprosy had been discovered in Baltimore recently caused quite a little stir, especially as one of the cases was in the person of a nurse who had quite a considerable business. Her name and address having been announced in the papers, and her personal liberty being endangered, she left for parts unknown. In the other case the diagnosis is not confirmed.

Dr. A. P. Grinnell of Burlington, Vt., has reported upon the use of narcotics in that State. He finds that every month there is sold, exclusive of patent medicines and physicians' prescriptions, 3,300,000 doses of opium. Some storekeepers refused to state the amount of sales of opium or its derivatives. These are not counted in the estimate, so that the actual amount sold is higher than that stated. About 40,000,000 grains of opium are sold a year.

The first death from smallpox in Towson since 1888 was that of Dr. Thomas H. Little, a graduate of the Toronto School of Medicine, aged forty years, who, it is said, had never been vaccinated. About ten days before his death Dr. Little was called to see a young man recently arrived from Cleveland, Ohio. He did not recognize that his patient had smallpox, and became infected himself with confluent hemorrhagic smallpox. Dr. Little had $11,000 of life insurance. Being unvaccinated, he was required in his application to waive responsibility of the company in the event of his death from smallpox. So that to make his unfortunate error doubly bitter, his family has no claim upon the companies to whom he paid the premiums on $11,000.

The State Board of Health of Maine discovered a case of plague recently among some pet rats brought home from the Philippines by a soldier.

The Medical College of South Carolina at its recent commencement graduated two women, the first women to receive their degrees in that State.

The smallpox situation in Maryland is just now about as encouraging as at any time in the past three years. There are but six reported cases in the State, two in Washington county, one in Montgomery county and three in Baltimore Quarantine Hospital.

At the meeting of the Maryland Public Health Association on Wednesday night, the 23d of May, Dr. Bosley, City Health Commissioner, invited the physicians present to visit Quarantine Hospital for the purpose of observing smallpox. This is a new departure on the part of the City Health Department, and one worthy of the highest praise. So far from endangering public health, this will furnish an opportunity to physicians to familiarize themselves with the appearance of the eruption, and will probably, through better diagnosis, give additional security to the public. The only conditions imposed upon the visiting physicians are that they shall have a fresh vaccination and shall take the usual personal precautions practised in Quarantine.

At the meeting of the Maryland Public Health Association on May 22-23 the following subjects were discussed: "The Prevention of Tuberculosis," by the president, Dr. Howard Bratton; "The Prophylaxis of Cancer," by Dr. John C. Hemmeter; "The Teaching of Physiology and Hygiene in the Public Schools," by Dr. L. G. Smart; "The Chances of Infecting a Public Water Supply in the Delivery Pipes," by Dr. John S. Fulton; "The Relation of Religion to Public Health," by Dr. A. K. Bond; "The Distribution of Infectious Disease in Baltimore City," by Dr. C. Hampson Jones; "Public Disinfection, Modes of Testing, Its Efficiency," by Dr. Wm. R. Stokes; "Hydrocyanic Acid Gas as a Disinfectant," by Dr. John F. Fulton; "The Disposal of Waste in Towns," by Dr. Joseph E. Gichner. On Wednesday evening Dr. Otey J. Porter of Columbia, Tenn., by special invitation of the Association, gave a lantern-slide lecture on "Smallpox as It Now Appears." Dr. Samuel J. Fort read a brief memoir of the late Dr. Edward M. Schaeffer, and a minute of respect was adopted.

The University of Pennsylvania is about to erect, at a cost of more than $500,000, exclusive of grounds and equipment, a medical laboratory building which will be unexcelled in every respect. The building will be two stories in height above a high basement, and measures 340 feet front by nearly 200 feet in depth. The long front faces north, securing a maximum amount of the best light for laboratory purposes. All along the front are arranged small rooms for research, rooms for professors and their assistants, a library, etc. Perfect lighting of all the laboratories has been obtained, the north front of the rooms facing on the courtyard being made almost wholly of glass and extending higher than the front. The first floor of the new laboratories will be devoted to physiology and pharmacodynamics. The second floor will be devoted exclusively to pathology. The entire north front of the building is devoted to laboratories for advanced students in pathology and pathological bacteriology, and to the special research and assistants' rooms. Each of the advanced laboratories measures 31x44 feet. The east wing accommodates the laboratory of experimental pathology, while the west wing is occupied by he museum of pathological specimens. The last laboratory, the front of which is to consist almost entirely of glass, is located in a section of the building looking north into a spacious court. This room, 37x100 feet, will seat 100 students, and will be devoted entirely to microscopical work. Another section of the building, of equal size with the first, and also looking north into the court, is subdivided into three smaller laboratories for instruction in comparative, neurological, and surgical pathology. Finally, the west wing of the building will also provide for photographic and microphotographic outfits. Besides the laboratories, research-rooms, etc., there are four lecture-rooms in the building. The two "demonstration-rooms" each seat 185 students. At the rear of the building there are two large lecture-rooms, each seating 400 students.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 7 BALTIMORE, JULY, 1901 Whole No. 998

OSTEITIS DEFORMANS.

By A. D. Atkinson, M.D.,
Baltimore.

PAGET'S disease, osteitis deformans, or osteo-myelitis fibrosa, is a chronic affection of the bones, characterized clinically by a primary thickening and subsequent bending of the bones involved. In consequence of this bending a progressive loss of height occurs, together with an increase in the size of the skull. The bones involved are all the long bones, with the vertebrae and clavicles, and the bones of the skull.

To Sir James Paget we are indebted for the first clear clinical picture of the disease and its distinction from kindred maladies, such as osteo-malacia and rachitis.

Previous to this (1877) Czerny (1873) introduced the title of osteitis deformans for a group of cases which developed single or multiple fractures of the long bones, and which were afterwards shown to be osteo-malacia pure and simple.

To those who have not seen a case of osteitis deformans a brief description of the symptoms and clinical course may not be out of place. The disease occurs usually after middle life or in old age. Loss of height, stooping posture and increase in size of the head are perhaps the most striking features. The curved lower limbs appear to be held apart (see Fig. 1), the knees overhanging the ankles. The upper portion of the spinal column is fixed in its bowed position, the ribs crowded together, and in advanced cases immovable. The long bones of the extremities are found to be much enlarged, and uniformly curved outward and forward from one end to the other.

Pain is a constant feature, especially in the lower limbs and spine. It is described as dull and aching in character. The general health may remain good, and life is not shortened except from some intercurrent malady, the disease gradually progressing until walking is almost entirely prevented.

Fourteen years after Paget first described the condition he made the following points in regard to its clinical picture, after having seen twenty-three cases:

1. The preponderance of males among the patients affected.*
2. The disease most frequently occurs between the age of forty and fifty.
3. The frequency with which sarcoma occurs in osteitis deformans, for of eight cases traced to the end five died of malignant disease.

FIG. 1.—Osteitis Deformans—Dr. Atkinson's Case.

4. Of the twenty-three cases noted, four became blind—one with choroiditis, and three with retinal hemorrhage.
5. Absence of any hereditary tendencies.
6. The most frequent seats of osteitis deformans are the tibiae, femora, clavicles, spine, and vault of the skull. He asserted there has never been any evidence of disease of the bones of the face. (The latter statement seems to me without foundation, for the

*Later statistics seem to show that males and females are about equally affected.

leontiasis ossium of Virchow is certainly a form of true osteitis deformans.)

The history of a case that came to my notice some time ago is briefly as follows:

W. H. W., aged thirty-seven years, a native of West Virginia. His family history was entirely negative, there being no history of syphilis, tuberculosis, rickets, or cancer. As a young man he had been rather delicate, owing to the cardiac complications of a prolonged attack of inflammatory rheumatism. When twenty-four

Fig. 2.—Osteitis Deformans—Dr. Atkinson's Case.

years of age (thirteen years ago) he noticed a small knot, the size of a silver dollar, on his left shin, which rapidly spread up and down the left tibia until the entire bone seemed to be involved. Gradual bending forward and thickening have been noticed ever since. In addition, during the past seven years the right tibia and left radius have become more or less bent and nodular, but not to the same extent as the left tibia. His head began to enlarge at about the same time as the left shin. At that time he wore a $6\frac{7}{8}$ hat; at the present time a $7\frac{1}{2}$ is not quite large enough for him. Four or five

years ago he noticed for the first time some decrease in stature, his maximum height being five feet five inches; his present height five feet two inches.

An examination of the bony framework revealed the following: Spinal column perfectly straight; clavicles, fingers and toes, together with the bones of the face, delicate and natural-looking; circumference of the head (occipito-frontal), 61 cm.

The left forearm presented marked deviations from the normal; there was a swelling of the entire length, and in places (notably just above the wrist) it gave one the impression of callous forma-

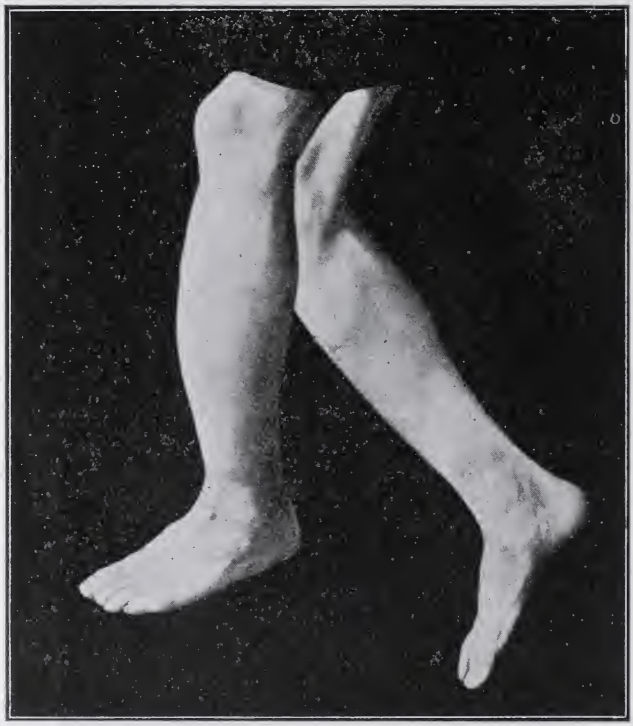


FIG. 3.—Osteitis Deformans—Dr. Atkinson's Case.

was shorter than the right by 1.7 cm. The circumference of the left leg at its greatest thickness (6 cm. from the tubercle of the tibia) was 33.5 cm., as against 32.7 cm. at a corresponding point on the right leg.

Reflexes normal; pupils reacted to light and accommodation, tion, due to faulty union of a fracture. The left forearm was shorter than the right by 1 cm.

The legs were bowed, bending having taken place forward and laterally. There were no nodules on either femur, but slight bending forward had occurred. Both tibiae, however, were greatly

thickened, and presented nodulations, especially in left leg, which There was a soft systolic murmur at the point of maximum cardiac impulse, together with a few moist rales at the bases of the right and left lungs posteriorly.

Fig. 4.—Skiagraph of Left Tibia.

The urine contained a trace of albumen and a few granular casts; no sugar.

The pathology of this disease is extremely vague, due in all probability both to the comparative rarity of the condition and to the fact that in cases coming to autopsy, the bone having been subjected to chronic inflammatory changes for so long a time, little or

none of the primary histological structures remain, and the conditions of osteo-sclerosis and its opposite, osteo-porosis, remain as the result of long-continued inflammation. Again, the literature on the subject is filled with contradictory statements, due in all probability to the fact that autopsies have taken place at different stages of the disease, and other mistakes have occurred, due to faulty nomenclature and observation. For instance, Czerny, in 1873, introduced the title of osteitis deformans for conditions that were afterwards found to be in all probability osteo-malacia, and it was not until Paget, in 1876, used the term osteitis deformans for a general bone disease of the entire skeleton that the osteo-myelitis fibrosa of von Recklinghausen was found to be identical.

The bones undergoing this deformity appear at first hypertrophied. The circumference of the skull (see also Fig. 5, taken from "Treves' Surgery," p. 900) gives an excellent idea of the extent of the process, and the long bones appear enlarged and bigger around (see skiagraph of left tibia, Fig. 4). In different cases different bones are affected, viz., first in frequency the tibiae, then the skull (which indeed may be affected by itself, according to Silling and von Recklinghausen's observations), or any combination of these. Concerning the bones of the face, the lower jaw is most often involved, and in a case of Meunier's the zygoma was so greatly hypertrophied that it gave the impression of "leontiasis." As I have already stated, other long and short bones besides those already mentioned may become involved—the clavicle, vertebrae, etc. Paget's original statement that the disease is essentially a symmetrical one is often not borne out. In an article of Schmidt's he states that all processes of true osteitis deformans begin first as rachitis, followed by osteo-malacic changes, and next by osteo-fibrotic changes. Billroth, in speaking of chronic osteitis, says "chronic inflammation in bone first shows itself by the lime salts becoming soluble. Now, if instead of a local inflammatory condition we have one scattered over the various long and short bones, and the chalky salts disappearing from the bony tissue, while the vessels of the medulla increase, bony structures will gradually disappear, and we have the picture of true osteo-malacia inflammatoria, or the rarifying osteitis of Volkman." In addition to this softening, just the opposite may occur, either in portions of the same bone (see light and dark areas in skiagraphic picture), or in different bones, osteitis osteo-plastica or osteitis sclerosa. Whether or not this bone-hardening begins with a primary absorption of salts is not known. We do know, however, that there is a new formation of bone in the medulla and haversian canals, which is usually seen in the long bones, and when present usually attacks the entire bone to such an extent that the medullary canals may be completely filled with fairly compact bony substance, together with a new growth of bone on the surface. This new growth may

account for the occasional lengthening, instead of shortening, in osteitis deformans.

To briefly summarize the more modern views of the pathological findings, we have the disease commencing as a chronic rarefying osteitis, in which the normal compact tissue becomes finely porous, in which fresh bone is formed beneath the periosteum, finally undergoing the hypertrophic and partially sclerotic changes, so well marked in the later stages of the disease.

These two conditions, osteo-porosis and osteo-sclerosis, evidently play no small part in bringing about the deformity of the

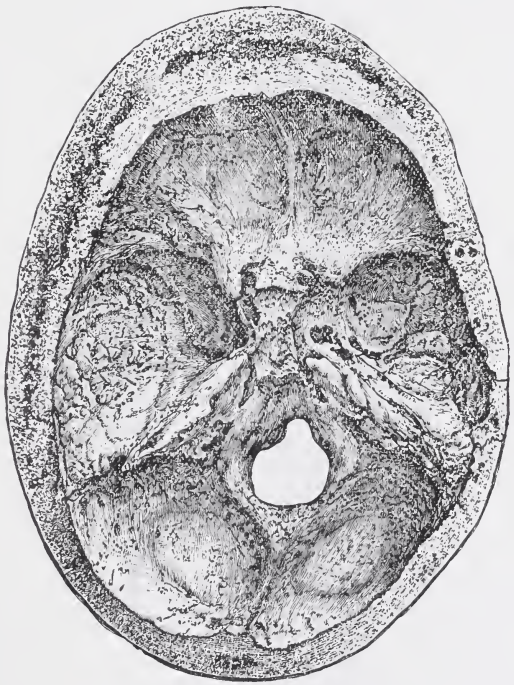


Fig. 5.—Osteitis Deformans—From Treve's Surgery.

long bones. The increasing size of the cranium may be accounted for by the fact that, in addition to the great increase in blood supply and fibrous bone, there is a well-marked filling up of diploe between the internal and external tables of the bones of the cranium with new bone formation. This condition of new bone formation corresponds strikingly to the processes taking place as age advances in persons not affected with osteitis deformans, and may, I think, be likened to a simply premature thickening of the skull.

After a review of the more modern ideas of rachitis one cannot help being struck by the extreme obscurity of the disease, and by its close apparent relationship to osteitis deformans. This relation-

ship seems even closer when we contrast cases of rachitis occurring late in childhood with the so-called mollities ossium of more advanced life. For instance, Dent reports a case of double displacement of the tibiae backward, with deformity of the long bones and arrested development, in a girl eleven years of age, the bone-bending having occurred after an attack of scarlet fever. The onset was gradual, and five years after there had been no increase in height and no increase in the size of the head. All the long bones were bent, the femora markedly so, both in the shaft and in the epiphyseal end. The tibiae were also much distorted. Dent, in

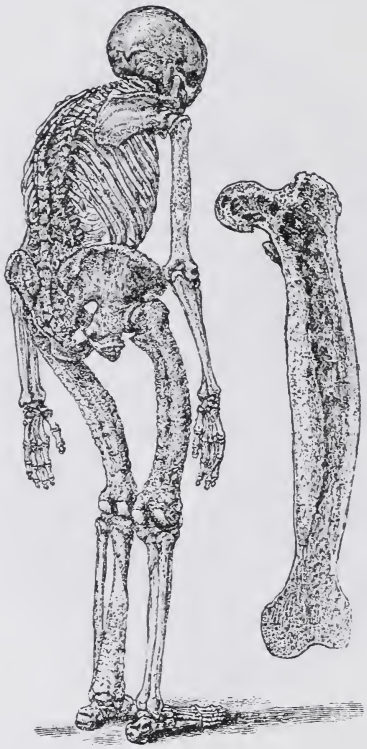


FIG. 6.—Osteitis Deformans—From Treve's Surgery.

his remarks on the case, says: "I think it possible that the disease in this case is not due to mollities occurring in a young subject, but that the chief deformity is due to a process essentially not rachitic, and I prefer to classify it as being neither one nor the other, though more essentially mollities than rickets. Billroth reports about the same condition in a lad twelve years of age, in whom no sharp line could be drawn between halisterisis ossium, osteoporosis, and rickets. I mention these two cases to show that the dividing line between bone deformities of childhood and adult life are at times indistinguishable, and also to show how not only the

epiphyseal end, but the shaft of a long bone as well, may be so affected as to cause tremendous distortion, a positive diagnosis not being practicable. Unquestionably there exists a bony softening quite distinct from osteitis deformans, rachitis, and ordinary mollities. Whether or not there is a relationship existing between them is unknown. Certainly the disease described under the title of osteitis deformans by Paget is only seen during middle or advanced life.

LITERATURE.

Medico-Chirurgical Trans., Vol. XL, 1877.
Ergebnisse der Allgemeinen Pathologie und Pathologischen Anatomie, 1890.
Billroth's Surgical Pathology.
Trans. Path. Soc., Vol. XXXIII, 1882.
Billroth Clin. Surg., New Syd. Soc., 1881.
Johns Hopkins Bulletin, Vol. IX, 1898.

SPONTANEOUS VERSION OF A FETUS WITH HYDROPERITONEUM REQUIRING AN OPERATION BEFORE DELIVERY WAS POSSIBLE.

By L. George Taylor, M.D.,
Perryville, Md.

Mrs. A., white, aged forty-five, multipara; had her last menstruation, with usual quantity of discharge, on May 13, 1899. There were slight menstruations in June and July, and quickening was felt about September 27; hence utero-gestation had advanced only to the seventh month when I was first called to the case (in labor) on December 13. Two months prior to this date a general dropsical condition of the lower limbs and abdomen appeared; albumen was present in small amount in the urine; the abdomen was greatly distended, and to all appearances as large or larger than at full term.

Upon the first examination, while in labor, the os was found to be fully dilated, and the presenting parts high up, but not engaged; the membranes were intact, and extended down into vagina; ribs and spaces and a prolapsed hand were distinctly felt through the membranes. Diagnosis: Transverse presentation; head to the left, and dorsum posterior. A short time after the examination my attention was called by the patient to a movement of the fetus. It

was described as a turning or twisting of the child, and proved to be a transposition of one pole, or presenting part of the fetus, for another; transverse for a breech. Examination revealed parts high up soft and irregular, denoting the breech; the head was at the fundus; version had taken place. The membranes were ruptured, and, with the escape of a large quantity of amniotic fluid, a foot came down into the vagina. With very little effort the other one was brought down. Traction was made on both feet, and external force applied in the same direction from the abdomen. The fetus would descend a short distance into the vagina, and then resume former position when traction ceased. This was repeated many times, the feet remaining in the vagina. Uterine contractions increasing in frequency and force, and aided by strong traction, produced no advancement. An anesthetic was given, and after proper antiseptic precautions I introduced my hand into the uterus. The sacrum was to the mother's left and posterior; sacro-levo posterior. The child's abdomen was found to be greatly distended. The non-delivery was now explained. The anesthetic was immediately withdrawn, and recognizing that the child would have to be destroyed, I sent for Dr. R. H. Smith of Havre de Grace, who kindly came to my assistance.

A pair of sharp-pointed curved scissors, thoroughly sterilized, was introduced on the palmar surface of the left middle finger to the child's groin and into the abdomen. The blades were then separated, and a large quantity of fluid escaped. The child's abdomen immediately collapsed, and with the next uterine contraction the hips were born, the shoulders following in quick succession. The head impinged on the arch, occiput rotated to the front, and in a short time was born by flexion.

The placenta was hypertrophied. No hemorrhage followed. The patient made an uneventful recovery. The child was about fifteen inches in length, a female, rather ill-nourished, weighing about six pounds. The limbs were slightly puffed, but no hydrocephalic condition was present. The traction made on both limbs had caused the fracture of one thigh.

That spontaneous version should take place in a case of hydramnion was a singular circumstance. There was a roomy pelvis, fetus movable, and an amniotic sac extending well down into vagina. The least amount of fluid present was necessarily at the fundus, where the breech was at first. Contractions, beginning at the fundus and taking the breech within their grasp, may have forced it downward, and so thrust the unengaged head to the left and upwards. The breech would thus be made to occupy the lowest uterine segment.

Current Literature.

MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

Late Results of the Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus. William B. Coley, M.D. *Philadelphia Medical Journal*, May 25, 1901.

In 1894 Coley read his first paper upon the treatment of inoperable malignant growths with the mixed toxins of erysipelas and bacillus prodigiosus, at which period the results seemed to be remarkable, although they had not stood the test of time.

Seven years having elapsed since that time (and ten years since the beginning of these experiments), in which new cases have been so treated, making the list large enough to draw conclusions from, the practical question may now be asked, "Has the toxin method fulfilled any of the earlier hopes and claims?" In other words, just what, in brief, is its proper place in the therapeutics of malignant tumors?

According to Coley, "the results of this method during the last three years have given me no reason to change the conclusions expressed in my earlier papers, and I have nothing new to add in the way of improvement in technique or in preparing the toxins. While the results are far better in spindle-celled sarcoma than in any other form, there has been a sufficient number of round-celled sarcomas successfully treated to make it advisable to give every patient with inoperable sarcoma the benefit of a brief trial. If no improvement has occurred at the end of three or four weeks of daily injections the treatment is not likely to be successful. If improvement does occur the treatment should be kept up, either until the tumor has entirely disappeared or until it has become evident that the injections have lost their inhibitory influence. The toxins may be given for long periods in moderate doses without harm to the patient. The risks of the treatment are practically *nil* if proper precautions are observed. In upwards of 200 cases I have had but two deaths, both of which occurred more than five years ago. It should be advised that the method is advised only in inoperable tumors, and practically only in sarcoma; in other words, in the entirely hopeless cases. As above indicated, the percentage of probable cures depends largely upon the type of cell, varying from perhaps 4 to 5 per cent. in the round-celled to nearly 50 per cent. in the spindle-celled variety."

According to Coley, no success has attended this method of treatment, so far as the case of melanotic sarcoma or lymphosarcoma of the neck, as in these cases he has not had a single

permanent success. After generalization has occurred, whatever be the variety of sarcoma, Coley doubts that any permanent results can be obtained by the toxins.

In a series of 140 cases, published in 1898, Coley reported that in twenty-four the tumor completely or partly disappeared. In this series eighty-four were round-celled sarcomas, and of these forty showed more or less improvement, as shown by decrease of size and cessation of growth; but in only three was the treatment successful. Of the twenty-one cases of spindle-celled sarcomas, ten disappeared entirely, and all the remainder showed marked improvement.

Coley has made a very great effort to trace the after-history of his patients, with the following results: Sixteen cases treated by this method have remained well from three and one-half to eight years; of these, two recurred after three and eight years, respectively, one dying of metastasis in the abdomen; the second, after remaining well for eight years, died of local recurrence.

The cases were all hopeless, inoperable cases, and in all but two the diagnosis was confirmed by microscopic examination.

The type of tumor in the fifteen cases that passed the three-year limit was as follows: Spindle-celled sarcoma, 9; round-celled sarcoma, 2; mixed-cell sarcoma, 2; epithelioma, 1; sarcoma (clinical diagnosis only), 2. Two of the cases were sarcomas of the parotid gland, where, according to Butlin, "up to the present time there are very few instances of cure by operation of undoubtedly malignant disease of the parotid."

Coley still believes "that the action of the toxins upon malignant tumors can be explained only upon the theory that they result from the invasion of some infectious micro-organism."

This article has been reviewed at length not only because of the great value of the work, but because it would seem undoubtedly true that this should be the routine treatment in all cases of inoperable malignant diseases brought to our care, and by its means, to judge from Coley's results, success should attend our efforts in a certain proportion of cases which otherwise would undoubtedly terminate fatally, while it may distinctly prolong life by the inhibition of growth in cases in which a cure is not obtainable.

* * *

The Recognition of Tabes Dorsalis. Theodore Diller, M.D. *American Medicine*, June 1, 1901.

After giving a brief description of the history of the disease and the pathological changes which are met with, Diller takes up and considers briefly, though carefully, the various symptoms met with in this disease.

He especially insists that although the lost knee-jerks, ataxia, the various paresthesias, anesthesias, analgesias, and painful sensations, due to the involvement of the peripheral sensory neurons, are met with generally in the majority of cases, too much insist-

ence should not be laid on their presence in every case, for there is a considerable number in which some of the so-called typical symptoms are wanting, as the ataxic gait, the absent knee-jerks, and the Argyll-Robertson pupil. According to Diller, the three chief symptoms which lead the patient to seek medical aid are: (1) lightning pains in the legs, (2) loss of function of the bladder and sexual organs, and (3) double vision or failure of vision. The lightning pains, usually appearing in the legs or around the waist, but occasionally in the arms, was the first symptom to appear in nine of twenty-four of Diller's cases; ocular symptoms were the first to appear in six of the twenty-four cases (in four cases as transient diplopia, in two as optic atrophy), while in two other cases optic atrophy was an early, although not the first, symptom to appear. "In the presence of a transient and recurrent diplopia, or ptosis, or an unexplained optic atrophy, one should always suspect tabes and seek other signs of the disease, and should he fail to find them or any other adequate explanation of the symptoms (as, *e. g.*, paralytic dementia, brain tumor, disseminated sclerosis, or cerebral syphilis) the patient should be regarded as a "suspect,' or cerebral syphilis) the patient should be regarded as a 'suspect,' that when optic atrophy appears as an early symptom the other symptoms are late in their appearance, or may never appear."

Cystic weakness, or sexual impotence, or both, were the first symptoms complained of in three of Diller's twenty-four cases. At some time in the course of the disease ten suffered from vesical weakness, nine from impotence, and two from defective control of the anal sphincter; generally cystic and sexual weakness were present in the same patient; two patients complained of weakness of the legs as the first symptom, while in five others this symptom appeared at some time during the course of the disease. Paresthesia was present in eight of Diller's twenty-four cases, while Limbach recorded its presence in 64.5 per cent. of his 400 cases. Girdle sensation was present in eight of the twenty-four cases, and gastric crises in two of the cases, it being the first symptom to appear in these cases. Among the trophic disturbances of tabes, Diller mentions various changes in the bones, rendering fracture liable to occur, the Charcot joint, perforating ulcer, and herpes zoster. Diller concludes as follows:

"Upon the presence of how few symptoms may the diagnosis be made? The following symptoms, I believe, may be said to be the cardinal ones of tabes, and are named in the order of their importance: 1. Failure of knee-jerks; 2. Romberg symptoms (swaying with eyes closed); 3. Argyll-Robertson pupil; 4. Lightning pains; 5. Loss of functions of the bladder or sexual organs.

"With the presence of any three of these symptoms I believe the diagnosis may with certainty (and in the presence of any two with probability) be made when evidence pointing to multiple neuritis, paralytic dementia, or cerebro-spinal syphilis is absent.

"Among the important secondary symptoms or signs are: (a) paresthesia, anesthesia, or analgesia of the legs; (b) locomotor

ataxia; (c) transient ocular palsies; (d) paresthesia in the ulnar distribution; (e) optic atrophy. With the presence of two of the cardinal signs of tabes and one of the secondary signs I believe the diagnosis may be made with certainty, and made as most probable with the presence of two of the secondary and only one of the primary symptoms, and, indeed, it may be made with certainty in the absence of all the cardinal symptoms. Many combinations of symptoms are, of course, seen in tabes, and the evidence presented by each case should be carefully weighed. When this is done it will happen but rarely that the diagnosis cannot be made with certainty or probability."

* * *

THE TREATMENT OF CONSTIPATION BY THE ADMINISTRATION OF BACTERIA. Ross. *Münchener med. Wochenschrift*, Oct. 23, 1900.

There is probably no subject in medicine which gives the general practitioner, the "family doctor," more trouble than the successful treatment of constipation. Ross, thinking from his experiments that the colon bacillus (bacillus coli communis) has a distinct effect upon the peristaltic action of the intestines, administered a culture of this micro-organism, obtained from the stools of persons whose bowel actions were free, to some of his friends, and found that in several of them a distinct and immediate improvement followed, which lasted for two weeks. He also tried the bacillus acidi lactici, administering the bacteria in gelatin capsules, but athough there seemed to be increased perisltaltic action, and tenesmus, the constipation was not ameliorated.

Yeast, however, dried at a temperature of 88° F., in doses of eighty grains two or three times daily, seemed to be very successful in the treatment of this condition, and in sixteen out of the twenty patients experimented upon the condition was entirely relieved, while the action lasted for a considerable time after the discontinuance of the drug. According to Ross it acted even better if heated for ten hours at 212° F., so that the action cannot be ascribed to any fermentative process. The etiology of constipation is still so far from being perfectly understood, while the rational and successful treatment is still so far from being known, that any suggestion along either line should be appreciated and tested. If in the hands of the medical fraternity the use of yeast will be fraught with as much success as in the hands of Ross, and if the results show that its use is unattended by unpleasant or harmful features, it will add distinctly to our armamentarium in combatting those cases of constipation which do not yield to diet, massage, exercise and other more rational modes of treatment.

* * *

THE REPORT OF THE BRITISH MEDICAL ASSOCIATION'S COMMITTEE ON ANESTHETICS.

The work of this committee has been carried on since 1891, the sub-committee consisting of Drs. Hutchinson, Childs, Buxton,

Easter, Hewitt, and Rowell. Analyzing the cases studied, which were obtained partly from hospital, partly from private practice, they were subdivided into uncomplicated cases, complicated cases (the complications referable wholly or in part to the anesthetic), cases with minor complications, cases of anxiety, cases of danger, and cases of death, the symptoms mentioned in all these cases being due wholly or in part to the anesthetic.

There were forty-five various anesthetics or mixtures of anesthetics employed in all the 25,896 cases analyzed, in which chloroform was used 13,393 times, and ether 4,595, showing the great extent to which chloroform is used in Great Britain.

There were eighteen deaths under chloroform anesthesia, of which number three were considered to have been brought about entirely by the anesthetic, four to the anesthetic primarily, the patient's condition secondarily, and eleven where it was impossible to determine the relative *rôles* played by the anesthetic, the patient's condition, and the operation in the production of death.

Three deaths occurred under ether anesthesia, but of these not one seemed to be due entirely to the anesthetic.

Grouping all the fatal and dangerous cases together, this gives a danger-rate of .582 per cent. with chloroform anesthesia, and .065 per cent. with ether.

PEDIATRICS

By José L. Hirsh, M.D., Baltimore.

Congenital Stenosis of the Pylorus in Children and Its Treatment. E. Mounier. *Centralblatt f. Kinderheilkunde*, April, 1901.

Mounier reports a case of a child, four weeks old, with congenital stenosis of the pylorus, and recovery following a gastro-enterostomy. During the first two weeks the child was nursed at the breast, during which time it showed no symptoms. Artificial feeding was begun, and vomiting soon set in. The vomiting was constant, but no bile was noted. Emaciation was rapid. The most striking symptom was the appearance every two or three minutes of a peristaltic wave over the abdomen. This wave traveled from above and to the left downwards to the right, extended 2 cm. below the umbilicus, and ended in a lump between the umbilicus and the right anterior superior spine of the ilium. The operation confirmed the diagnosis.

The author discusses the cases thus far reported, and concludes that the condition consists in a thickening of the wall of the pylorus, with lengthening of the same at times.

For the diagnosis, vomiting, small dry stools, and the peristalsis

in the gastric region are of great significance. Without operation the prognosis is unfavorable. When breast feeding or artificial feeding in small portions does not improve the condition of the child the only resort is surgical intervention. The author prefers gastro-enterostomy, carried out with sutures, rather than with the Murphy button, on account of the narrowness of the intestinal lumen. The operation is indicated as soon as the clinical symptoms indicate danger to the life of the child, no progress being made by internal treatment.

* * *

A Case of Peliosis Rheumatica Caused by Traumatism. L. Fischer. *Pediatrics*, May, 1900.

In a boy, nine years old, with good family history, there appeared a painful swelling of both knees and ankle joints, with but little temperature, and without much general disturbance. At the same time an eruption of irregular, dark-brown spots, which covered the inner surfaces of both thighs and calves, was noted. No heart complications ensued. Patient showed no symptoms of rickets, scorbutus, hemophilia, or lues. Rest in bed, with ergot and iron, caused a disappearance of symptoms in three weeks. The origin of the affection the author attributes to violent bicycle exercise, which was practiced five or six hours daily for a period of four weeks preceding the attack.

* * *

Glycosuria in Whooping Cough. Thomson. *Glasgow Hospital Reports*, Vol. II.

The author draws the following conclusions from 7370 urinary examinations in eighty-two patients:

1. The urine of children with whooping cough reduces the copper salts in Fehling's solution.
2. This usually occurs in the second stage of the disease, the spasmodic stage.
3. Glycosuria is also observed in many other diseases of children.
4. Often in perfectly healthy children a similar reduction of copper salts occurs.
5. The reducing power is more marked in whooping cough than in any other disease or in health.
6. This reduction is always due to the presence of grape sugar in the urine.

* * *

Bacteriology of Whooping Cough. G. Arnheim. *Berliner klin. Wochenschrift*, No. 32, 1900.

In a paper read before the Berlin Medical Association Arnheim reports the results of the bacteriological researches which he made

on forty-four children with whooping cough and on three autopsies.

Czaplewski and Hensel have described as the specific cause of the disease a small bi-polar, light-staining bacillus, similar to the influenza bacillus. Arnheim corroborates this finding. In the sputum of every case, as well as in two cadavers, Arnheim found the organism not only microscopically, but also in cultures, so that he also, in spite of the fact that animal inoculations have thus far proved negative, concludes that the "pol-bacterium" is the specific cause of pertussis.

* * *

PYELONEPHRITIS IN CHILDREN, WITH REPORT OF A CASE IN WHICH NEPHRECTOMY WAS SUCCESSFULLY PERFORMED. L. Fischer. *Archives of Pediatrics*, January, 1901.

In the *Archiv für Kinderheilkunde* Professor Baginsky reviews this subject most elaborately, and calls attention to a series of papers by Bernhard and Felsenthal, and Stamm. It is interesting to note that in one case Baginsky reports that the examination of the first specimen of urine showed it to be normal, and it was only in later specimens that albumen and morphotic elements could be found. Special attention is called by this author to the fact that the morning specimen was invariably clear and almost normal, whereas the afternoon urine was turbid, containing albumen and cellular elements.

Fischer calls attention to the following noteworthy points: 1st. That this disease is characterized by the presence of severe gastro-dyspeptic symptoms, such as anorexia and vomiting, pain in the region of the kidneys, and the long continuance of these symptoms; 2d. Constipation; 3d. The variability of the urine, its change from a perfectly healthy specimen to that of urine containing large quantities of albumen, pus, and morphotic elements; 4th. The peculiar type of fever, intermittent in character, with chills, and accompanied by constant but gradual emaciation; 5th. That the urine in cases of pyelonephritis shows, according to Baginsky, the presence of bacterium coli in pure culture.

Fischer further points out that there are three chief causes at work in the production of secondary renal disease: 1st. Increased pressure in the tubules from obstruction to the escape of urine; 2d. Reflex irritation of the kidney; 3d. The presence of septic matter in the pelvis of the kidney, and possibly in the lower parts of the tubules. The case reported by the author is as follows:

Hannah W., twelve and one-half years old, had been a healthy child from birth until she reached the age of four years; breast-fed for one year; had no gastric or intestinal trouble; when four years old had measles and chicken-pox. Following the attack of measles the mother does not remember whether there was any desquamation, but states that the urine was thick and cloudy. The child never complained of pain nor vomited, but suffered

with fever and occasional chills. Upon examination pain was found to be chiefly in the right hypochondriac region. There was no family history of tuberculosis or lues. On objective examination a large tumor was seen and easily felt on the right side of the abdomen, and was painful on pressure. The tumor felt very hard and solid. The examination of urine showed large quantities of albumen, casts and blood, and was faintly acid. At no time could pus be found. The child continued to emaciate. Her weight had fallen from seventy-two to sixty-nine pounds in a week. A surgical operation was advised, and nephrectomy was done.

The pathological report is as follows: The pelvis was a large pus sac, containing many small calcareous particles. Stained specimens of the pus did not show tubercle bacilli nor any other organisms. The kidney tissue proper was the seat of numerous small abscesses, undoubtedly due to the extensions of the process from the pelvis. Cut sections showed an intense inflammation of a chronic nature. Here and there were remnants of kidney tissue that show a chronic interstitial nephritis.

"Diagnosis.—Pyelonephritis; chronic interstitial nephritis." Following the operation the child immediately began to increase in weight, and is now perfectly healthy.

* * *

The Value of the Widal Reaction in Infancy and Childhood. J. L. Morse. *Archives of Pediatrics*, May, 1901.

Almost everyone seems to have taken it for granted that the Widal reaction occurs under the same conditions and with the same limitations in children as in adults. Wilson and Wesbrook reported seventy-seven positive results in 164 cases of suspected typhoid in children from two to thirteen years of age. They concluded that, as a rule, the reaction appears earlier in children than in adults. Blackader refers to forty-three cases in which the Widal reaction was carefully sought for and found. There is some evidence to show that in children the reaction appears earlier, is feebler, and persists for a shorter time than in adults. Owing to the comparative mildness, and to the large number of atypical cases of typhoid in children, the Widal test would seem to be exceptionally important as an aid in the diagnosis of this disease in children. The reaction is especially valuable in differentiating typhoid from gastro-intestinal affections resembling typhoid. The serum test therefore is of especial value in two ways in the diagnosis of typhoid in children: 1st. In ruling out many cases of gastro-intestinal disorders which might otherwise be mistaken for typhoid; and, 2d. In making a positive diagnosis possible in many mild cases which might otherwise pass unrecognized.

In infancy the presence of the Widal reaction is of less diagnostic value, having frequently been found absent in cases presenting all the typical symptoms of the disease. Again, it is readily conceivable that the reaction may be transmitted from the mother through the placenta or through the milk, or might

be due to fetal typhoid infection. The agglutinative power may be present in the blood of infants born not only during the course of the maternal fever, but also during convalescence. There are no data as to how long after birth the reaction may persist in the infant. Likewise there is abundant evidence to show that the agglutinating power may be transmitted from mother to infant through the milk not only during the course of typhoid, but also during convalescence and after recovery.

In early infancy, therefore, a positive Widal reaction is of somewhat less diagnostic value than in older children and adults. If the mother has had typhoid, and especially if she is nursing the infant, it should be looked on with some suspicion, unless associated with other characteristic signs of typhoid.

* * *

RELATION OF SCURVY TO RECENT METHODS OF ARTIFICIAL FEEDING. J. P. Crozer Griffith. *New York Medical Journal,* Feb. 23, 1901.

Griffith, from an analysis of the 379 cases reported to the committee of the American Pediatric Society appointed to investigate this subject, and of his own sixteen cases, concludes that "the use of the patented foods often produces infantile scurvy, while recovery in some cases may follow the withdrawal of these foods without further treatment. Whether this is because they are deficient in certain ingredients, or whether it is the fact that they so commonly contain or are derived from starch, remains to be determined. Two of my cases throw suspicion on barley water. The cases indicate, too, that the sterilization of milk has an undoubted power to produce scurvy, but that this is a less important etiological factor than the last; in fact, one of the most striking features which the cases illustrate is that scurvy can readily develop on a diet of milk which is not long heated, or is even raw. In some such instances we are led to suspect the action of a low percentage of proteids. Some of the cases also show that the beneficial action of fruit juice may begin and continue without any change in the food whatever. This is important, because it teaches that we must not always hasten to change the diet which has seemed to agree with a child with weak digestion because symptoms of scurvy are appearing. It is, in most cases, better to face the danger of the development of a disease easily curable, produced, possibly by a low proteid percentage, than to incur the far greater danger of a wasting diarrhea or other digestive disturbances, the result of overstrong food." At the conclusion of this most practical and instructive consideration of a subject especially pertinent at the present time, Griffith especially insists upon the marked individuality of each case, and the necessity of studying each one separately; for, as he says, "it is especially true here that what is one baby's meat is another baby's poison."

Duodenal Ulcer in an Infant of Ten Months. V. Adriance. *Archives of Pediatrics*, April, 1901.

The only item of importance in this case is the age of the infant, who was born December 6, 1899, and died October 6, 1900, at the age of ten months.

Family history is negative. The mother was a hard drinker. Up to the date of admission to the hospital (August 23, 1900) the baby had had no gastro-intestinal symptoms, although it had been fed artificially; the infant was then very restless, and gastro-intestinal symptoms appeared. Vomiting soon set in, and finally the food which was introduced by the stomach tube was also vomited. Nutrition gradually failed, and two pounds and one-half were lost during the first two weeks in the hospital. The symptoms gradually increased, and at midnight preceding the day of death the child vomited blood three times.

Autopsy.—No signs of rickets; heart and lungs normal; stomach contains bright red and partly-digested blood; duodenum; just below the pylorus is a small oval ulcer measuring 1 by 2 cm.; the margins are sharply cut, showing no indurations; microscopically the mucous membrane of the duodenum is normal; the ulcer has completely destroyed all signs of the layers of the wall of the intestine; the remaining portion of the small intestine contains considerable discolored blood; there is no enlargement of Peyer's patches.

* * *

The General Principles of Infant-Feeding and the Home Modification of Milk. L. E. Holt. *Archives of Pediatrics*, Jan., 1901.

Holt opposes the addition of any foreign elements to the milk of healthy infants, arguing that the physician must be guided by the proportion of the different constituents which exist in good breast milk. He thinks the greatest mistake made is to start with too high percentages, especially of fat and proteids, but that it is equally undesirable to keep an infant for a long time upon very low percentages of proteids. Ordinarily the modifications required for healthy infants can be grouped into three classes of formulas:

1. A series in which the fat is three times the proteids, or about that existing in breast milk. Such formulas are adapted to the first period of infancy, extending from birth to about the end of the third month.

2. A series in which the fat is twice the proteids, which formula is adapted to the middle period of infancy, that is, to the end of the tenth month.

3. Formulas in which the fat and proteids are nearly equal, adapted to infants over ten months old.

The above are sufficient for healthy infants. Those with feeble digestion or chronic indigestion require special study, and each case must be considered by itself.

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

Two Successful Cases of Secondary Suture—One of the Posterior Interosseous Nerve, and One of the Median and Ulnar Nerves. W. W. Keen. *Philadelphia Medical Journal,* June 1, 1901.

These cases were operated upon three and six months after the injury, and a return to motion followed in a week in one, and in six weeks in the other case. Practically both hands were useless, and for the same reason—the want of power of extension, but from different nerves. The wound of the posterior interosseous prevented extension at the knuckles by the common extension of the fingers, while the wound of the ulnar and median, in the second case, prevented extension of the last two phalanges by the interosseous and lumbrical muscles.

In suturing small nerves, like the posterior interosseous, it is a good point in practice to suture the nerve before excising the point at which it had been wounded, otherwise if excision is done first the nerve is apt to be considerably and possibly irreparably injured by forceps or other means used to seize and steady it while sutures are being passed.

So far as the records in the Surgeon-General's Library in Washington show, this is the only case as yet recorded of operation on the posterior interosseous nerve.

* * *

Pancreatitis. A. W. Mayo Robson. *Philadelphia Medical Journal,* June 1, 1901.

Only recently have clinical observers noted that whatever obstructs the common bile duct at its lower end must also of necessity lead to an obstruction in the pancreatic duct. Since Charcot described the disease as intermittent hepatic fever, infection and suppurative cholangeitis have been well recognized by pathologists, yet infective and suppurative catarrh of the pancreatic ducts has received, until quite recently, no attention.

When the common bile duct is obstructed jaundice at once demonstrates the fact. Hitherto, however, no pathognomonic sign has been discovered which will conclusively show that the pancreatic ducts are occluded, unless it be the extremely rapid loss of weight. The presence of fat necrosis affords some clue, discovered, however, only when the abdomen is opened. Glyco-

suria, lipuria, and fat in the stools seldom occur, but when present are of great diagnostic importance.

Acute, so-called hemorrhagic, pancreatitis often follows slight injury to that gland.

The essential and immediate cause of the various forms of pancreatitis is bacterial infection, this having been proved both clinically and experimentally.

The extrinsic causes of pancreatic disease embrace biliary and pancreatic lithiasis, injury, gastro-duodenal catarrh, ulcer and cancer of the stomach, pylorus or duodenum, and zymotic diseases, such as typhoid fever and influenza, though in some cases pancreatitis has come on suddenly in persons of robust health, the cause being beyond recognition. The infection may arise from the blood, as in pyemia, or by direct extension, as in ulcer of the stomach, yet the more usual channel is through the duct, as in cases with gallstones in the common duct, and from gastro-duodenal catarrh. Inflammatory enlargement of the head of the pancreas is a common concomitant of gallstones in the common duct. If common-duct cholelithiasis can give rise to chronic pancreatitis it will be also likely to induce subacute and acute forms of the disease.

Fat-Necrosis.—By fat-necrosis is understood splitting up of the fat into fatty acids and glycerine. The latter is absorbed, but the acids, being insoluble, remain in the cells and unite with the calcium salts, forming yellowish-white patches of various sizes in the subperitoneal fat, and in the omentum, mesentery, etc. Experiments by Opie, who ligated the pancreatic ducts in the cat, go to show that widespread fat-necrosis may be expected to follow very rapidly.

Fat-necrosis is commonly found in association with diseases of the pancreas, but it is also found in other ailments, and is not always found in all acute pancreatic diseases.

Hemorrhage in Pancreatic Diseases.—Local hemorrhages into the pancreas may occur apart from injury and apart from any general hemorrhagic tendency. Sometimes these spontaneous hemorrhages are recovered from, but usually they lead to death from collapse, either immediately or after some hours. Experience has shown that in operations on deeply-jaundiced subjects there is much less danger of serious hemorrhage when the jaundice depends on gallstones than when it depends on pancreatic disease. It is well before operating on such cases to administer chloride of calcium in 30 to 60-grain doses thrice daily for from twenty-four to forty-eight hours previous to the operation, and by enema in 60-grain doses thrice daily for forty-eight hours afterward. This is usually successful in preventing hemorrhage. These conclusions have been arrived at concerning the relation of hemorrhage and pancreatic disease:

1. That in certain diseases of the pancreas there is a general hemorrhagic tendency, which is much intensified by the presence of jaundice.

2. That hemorrhage may apparently occur in the pancreas unassociated with inflammation, or with jaundice, or with a general hemorrhagic tendency.

3. That both acute and chronic pancreatitis can and do frequently occur without hemorrhage.

4. That some cases of pancreatitis are associated with local hemorrhage.

Inflammations of the pancreas may be classified as acute, subacute, and chronic, hemorrhagic pancreatitis being classed as acute, the hemorrhage being merely an accident in the course of the disease.

Treatment of Acute Pancreatitis.—The pain at the onset is often so acute as to demand morphia, and later the collapse will need stimulants. The septic matter must be evacuated and free drainage given. Early exploration from the front through the middle line above the umbilicus or from behind through the left costo-vertebral angle is demanded. The after-treatment consists in combatting shock and keeping up the strength.

Treatment of Subacute Pancreatitis.—This form is more amenable to treatment. Morphia and stimulants may be required. Constipation must be met by calomel and saline aperients, and as diarrhea often follows, salol and bismuth, with small doses of opium, may be given. Distension, if present, is relieved by lavage of the stomach or by turpentine enemata. If surgical treatment is decided on, the incisions are made as in the acute form, and any incipient collection of pus drained and the cavity packed.

Treatment of Chronic Pancreatitis.—Abdominal section and drainage are indicated. The drainage in these cases is indirect, and obtained by draining the gall-bladder by cholecystotomy, cholecystenterostomy or duodeno-choledochotomy. The results of treatment in this class of cases have been most encouraging, as out of twenty-two cases operated on, only one died directly from the operation. Those recovering from operation, with the exception of two that died a few months later, made complete and perfect recoveries.

* * *

SURGERY OF THE SPLEEN. J. Collins Warren. *Annals of Surgery*, May, 1901.

The number of operations performed upon the spleen in modern times is by no means small. Hagen has collected 360 cases, with a mortality of 38.3 per cent. After eliminating what would be considered incurable cases, Hagen was able to reduce this mortality to 12.2 per cent., which he thinks may fairly be considered the legitimate mortality of the operation as practiced now.

1. *Malarial Spleen.*—Hagen has collected eighty-eight cases of malarial hypertrophy of spleen, exclusive of wandering spleen. Of these cases, twenty-four previous to 1890 gave a mortality of 62.5 per cent., while sixty-four operated on after 1890 gave a mortality of 23.4 per cent.

2. *Splenic Anemia or Splenic Pseudo-leukemia.*—This disease of young adult life promises good results from surgical treatment. Sippy regards the disease as fatal unless relieved by surgical interference. Of seven cases reported by him in which splenectomy was done, five recovered.

3. *Splenic Leukemia.*—The blood in this disease shows an increase in the total number of white corpuscles with the appearance of the characteristic cell, the myelocyte. On this the diagnosis is based. Splenectomy is almost invariably followed by a fatal result in this affection.

4. *Banti's Disease, or Hypertrophy, with Cirrhosis of the Liver.*— It is an open question whether these cases are not closely related to cases of hypertrophy of the spleen following atrophic cirrhosis of the liver, owing to the close relationship of the two organs through the medium of the portal system. Splenectomy in sixteen cases gave only three deaths.

5. *Wandering Spleen.*—Displacement of the organ often accompanies enlargement. The spleen then falls forward, lies horizontally in the body, with the hilus upward, and hangs only on the gastro-splenic attachment and vessels, thus drawing the fundus of the stomach outward, and perhaps detaching the pancreas by traction on the vessels. The falling spleen may cause intestinal obstruction or a fatal peritonitis as the result of the twisting of its pedicle. Among forty-three cases of wandering spleen operated on during the last decade there were only three deaths.

6. *Abscess of the Spleen.*—All cases of abscess of the spleen are not suitable for splenectomy. When there is danger of infecting the general peritoneal cavity by an attempt at extirpation it is best to simply open the abscess and drain.

7. *Rupture of the Spleen.*—When the spleen is ruptured without injury to the abdominal wall the necessity of an early diagnosis becomes a matter of grave importance. The diagnosis can be made on the history of a blow in the region, followed by dullness in the splenic region, and the usual symptoms of internal hemorrhage. Splenectomy is probably the best treatment for this lesion.

8. *Sarcoma of the Spleen.*—Up to 1890 Hagen reported five cases of splenectomy for sarcoma, of which three were cured and two died. From 1891 to 1900, four cases were reported, of which three were healed and one died.

Splenectomy has a wide range, and is only distinctly contraindicated in such grave organic lesions as leukemia, cirrhosis of the liver and amyloid disease. The mortality of the operation has been greatly reduced by the modern surgical technique. In general, the results of splenectomy are not constant, except for a reduction of hemoglobin and red corpuscles, and an increase of white corpuscles, and these conditions are only of temporary duration, and in no way debar the patient from a complete restoration to health.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MONDAY, APRIL 15, 1901.

THE meeting was called to order by the president, Dr. Welch, who introduced Dr. Harvey L. Gaylord of Boston as the guest of the Society and the speaker of the evening, his subject being "The Parasite of Cancer."

Dr. Gaylord prefaced his paper with a few remarks on the effect of his work and the manner in which his results had been obtained. He said that he could not hope that the facts he would present would be convincing to everybody, but he felt personally convinced that the outcome of his work would have some bearing upon the ultimate conclusions concerning the nature of the cancerous process and such other pathological processes as might be closely related thereto. He referred to Dr. Roswell Park's well-known belief in the parasitic nature of cancer, to the manner in which Dr. Park has kept this subject before the profession, and to the practical results of his agitation, which led directly to the establishment of the State Laboratory at Buffalo. He added that although Dr. Park had been so thoroughly interested in this work, he had in no way whatever attempted to influence the investigations, but immediately after the establishment of the laboratory he withdrew from every appearance of an attitude of dictation in the work, giving it only his earnest support, without any effort to influence results.

Dr. Gaylord said that when first asked to take charge of the laboratory he had felt some doubt as to whether it was wise for a man to devote himself to the study of a single problem even for a period of three or four years, but that he could now see that even a group of men might devote themselves to such work if only they were wise enough to keep in touch with other subjects at the same time.

Within the first six months after the opening of the laboratory results were obtained of a very important nature, a summary of which was presented to the New York State Society in 1900. This referred to the finding of protozoa in fresh cancer tissue. He then referred to Plimmer's work, and said that in every case he had ever examined he had found Plimmer's bodies.

For purposes of study the peritoneal fluid from carcinoma cases had offered some advantages, and not only was the organism found in the fluid as well as in the cancer scrapings, but their life cycle was more easily studied. The organism has been found in cancer scrapings, by fresh cover-slip preparations, or by the hanging drop with dilute bouillon or salt solu-

tion, and under favorable conditions they can be found in the peritoneal fluid of cancer cases, and after death in the heart's blood, the peripheral blood, and the organs of the body.

Describing the life cycle of the parasite, Dr. Gaylord said that at first it appeared as a very small organism, much like a small coccus, and it was only after great difficulty and culture upon a variety of media that it was determined not to be a coccus. As it increases in size it develops a peculiar oscillating movement and the habit of always going around in a circle, which suggests that it may possess but a single flagellum. Studied in the hanging drop, the organism comes to the surface very much like minute fat globules, and as it increases in size its refractive index approaches so close to that of fat that it is difficult to make a distinction. They do not, however, stain in the characteristic way by osmic acid, and fail to answer the other chemical tests for fat. In the next stage of its growth a few small granules appear within it, and it has then become a "Plimmer's" body. After a time it increases in size, develops a nucleus, and runs out pseudopodia, some of which filaments may spread clear across the oil immersion field. In the next stage it reaches such a size and appearance that it looks almost exactly like a leucocyte. These last two stages are the ones that Eisen of San Francisco has succeeded in fixing in the tissues. In the leucocytic form there are a number of granules in the protoplasm, and the cell has a well-defined ameboid movement, though it does not possess the rapidity of motion of the ordinary ameba. In the last stage some of the granules develop into hyaline bodies, and the cell takes on the form of a large sac containing these bodies. The description, it will be noticed, conforms very closely to that of the life cycle of the vaccine organism.

The small hyaline bodies and small forms of the organism found in the lymph nodes and periphery of the carcinoma are essentially the "Russell" body, and the second form, as described, is the "Plimmer" body. These forms, or stages of growth, of the organism have been found in every carcinoma, but the stage in which it appears as a spore sac has not been found during life.

Dr. Gaylord referred to the work of San Felici and of Pfeiffer, the latter having obtained almost exactly the same results from work conducted in an entirely different manner. He also related in detail the result of his experiments upon animals to show that this organism when injected into animals would produce cancerous lesions, and could be regained by culture methods and carried on so through a long series of animals.

In discussion *Dr. Welch* referred to the very great importance of Dr. Gaylord's findings, and suggested that other pathologists must feel it encumbent upon them to repeat the experiments in order to see whether or not similar conclusions will be reached.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD FRIDAY, MARCH 15, 1901.

THE meeting was called to order by the president, Dr. W. J. Todd, in the amphitheater of the Johns Hopkins Hospital.

Dr. W. S. Baer: "Exhibition of Cases."

Case 1. *Infantile Scurvy.*—This child is ten months old, and its present illness began two months ago. The child had fallen from a chair about that time, and shortly after showed a difficulty in using its feet. It had been raised on malted milk, and had never had breast milk. When brought to the hospital the child was very anemic and irritable. The mucus membranes were pale, and about the gums, just below the incisors, was the reddish swelling so often seen in scurvy. There was also a peculiar condition about the hip; it was abducted, slightly flexed, and slightly rotated outwards. A crepitus could be felt at the head of the right femur, but you could not get two distinct parts of the bone between the hands.

It was diagnosed as a case of scurvy with a separation of the epiphyses of the femur. No hemorrhagic spots could be found on the body. The diet was changed to milk and lime water, with beef juice and orange juice. He immediately began to pick up, and a week later the condition had markedly improved. The swelling about the right hip had been out of proportion to any callous that might have been thrown out around the separated bones, and an *x*-ray picture showed a subperiosteal hemorrhage extending along the femur almost to the knee, and a second large hematoma was found under the periosteum about the knee-joint. The case is of interest owing to the fact that there was no hemorrhage in the skin and such large hemorrhages under the periosteum.

Case 2. *Infantile Hemiplegia and Epilepsy, with an Olfactory Aura.*—This child is four years of age, and was brought in because of inability to walk properly. The family history is very good, and the previous personal history is unimportant up to the time of the present illness. At the age of two and one-half years he had an attack of measles, and about the third day had a convulsion lasting only a few minutes, but followed by a comatose condition which lasted three or four hours. He was completely paralyzed on the left side at that time, but recovered completely. About six months ago his mother died, and being placed with relatives, the child cried continually for some time, and then without any spasm went into a comatose condition again, and was again completely paralyzed on the left side. After that, for one or two months he had symptoms of mild attacks of epilepsy, and just prior to these attacks always complained of smelling disagreeable things, usually burnt peanuts. This aura would last a few minutes, and then he would pass into a dreamy condition for three or four hours, after which he would recover and appear well again.

Physical examination shows that he has a more or less typical hemiplegia, with very little of the spastic condition. His facial paralysis consists of a paresis of the upper part of the orbicularis palpebrarum. He can close the

eye, but not as perfectly as the other one. His pupils are widely dilated, but there is no optic-nerve atrophy. His tongue and uvula go to the left, but his sense of taste and sense of smell are perfect. His arm is slightly atrophied, but he can grasp large objects, and can straighten out the fingers very well. He cannot grasp small things, and has inco-ordination when trying to pick up things. He has increased knee reflexes on both sides, which is a well-known condition, but it is rather rare to have so great an increase as he has on the right side. There is no shortening of the leg or foot.

In regard to the special features in the case, the olfactory sensations are those most forcibly brought to our attention. The attacks come on in this way: For three or four hours before an attack he has a frontal headache, followed by this sensation of odor, so strong that at times he faints, and always following this odor he goes into the dreamy state. Sometimes he says he feels sick at the stomach. He never bites his lips, and never tastes anything disagreeable.

The first case of this kind that attracted much attention was that published by Hughlings Jackson. The autopsy in that case revealed a tumor in the tempero-sphenoidal lobe. Other cases have been reported. Jackson himself reported another last year in a man of fifty. Schaeffer, in his text-book on physiology, says that most of the olfactory centers are placed in the tempero-sphenoidal lobe or the gyrus hypocampus, and in the lower part of the occipital lobe. The aura is important, then, in helping us to locate the trouble.

Another remarkable feature of the case is his astereognosis—inability to tell what it is he grasps in his hand. He never makes a mistake in regard to the right hand, but almost invariably does with the left. His sensations for pain, heat, cold, etc., are good. Wernicke has within the past two years written a very exhaustive article on the subject, and recently Burr of Philadelphia summed up the subject in a very good article, concluding that the center for collective sensations that produces this phenomena is to be found in the temporal lobe. The probability is, then, that the hemorrhage in this case is in the temporo-sphenoidal lobe and about the uncinate gyrus.

Dr. R. Tunstall Taylor: The case of scurvy was of special interest to me, as I had seen a case within the last month where the child was anemic, and did not present the usual symptoms of scurvy. I was called to see the child because of a swelling in the thigh, which had produced a great deal of pain. The child was six months old, and there was nothing about the skin or mucus membranes to suggest hemorrhages. The family history was good, so far as tuberculosis, syphilis and malignant growths were concerned. It was said the child had had a cruel nurse, and it was supposed that some injury had occurred in that way. The swelling had been noted two months before I first saw the patient. The child had been fed on equal parts of milk and water which was sterilized.

The flexion of the thigh was quite suggestive of coxalgia. Traction was used, and a comfortable night followed, the first for a long time. Shortly after that we began giving lemon juice, and, having some reason to fear

specific trouble, we used mercurial inunctions. The swelling did not diminish, however, and suspecting a malignant growth, I asked for a consultation, and the consultant confirmed my fear that it was an osteo-sarcoma. An exploratory incision was advised, but was declined. The inunctions and lemon juice were continued, and within a few weeks the swelling entirely disappeared, so that the child seemed to be in a perfectly normal condition again. I think it was undoubtedly a case of scurvy of unusual duration, and without the usual appearances of that disease.

Dr. J. Hall Pleasants: "A Case of Multiple Keloid."

I want to bring before you a case of multiple or so-called multiple "*idiopathic*" keloid. The patient is a colored sailor, twenty-four years of age. His family history is unimportant. Personally he has been a man of good habits until quite recently, but for the past nine months has used a great deal of alcohol. Three years ago his throat below the chin was slightly cut with a razor, and the skin wound was sutured. About six months later he noticed a small lump about the scar, which increased in size gradually for eighteen months, when the growth ceased. On the 27th of last May he noticed on his back, over the right scapula, where the largest tumor is situated, a small pimple, which he thought was a boil. It bled freely when pricked, but no pus came. A month later a second nodule appeared below the left scapula, a week later another on the arm, and then they cropped out all over the body, appearing first and in greatest number over the back. He now has them, as you see, all over the trunk and upper arms, and a few on the legs, especially in the popliteal region. Upon the chest and arms the growths are linear in shape, and show little tendency to pedunculation. Over the chest they do not seem to have any particular arrangement, the long axis of some being parallel to that of the body, others again showing no especial arrangement, while on the back there is a tendency to symmetrical arrangement. On the right side of the back they follow more or less the course of the ribs, a fact which has been noticed in several cases of so-called multiple "idiopathic" keloids. The tumors are much larger on the back than in front, and in many cases they are pedunculated, and have a mushroom appearance. In some places they overlap the surrounding skin as much as 1 cm., and have almost a cartilaginous consistency. The skin over them is more deeply pigmented than the neighboring skin, and this is a point of interest, because in most cases occurring in the colored race the overlying skin is distinctly paler than the normal epidermis. In the center of some of the older tumors there seems to be a definite shrinking or sinking in, possibly due to contraction, such as is seen in scar tissue.

I think it is possible in this case to trace the development of these tumors. If you look closely you will observe that there seems to be a slight pigmentation around some of the hair follicles. Then follows a stage in which the neighboring skin is becoming pigmented, but as yet there is no elevation of the epidermis. The next stage is that in which these pigmented skin areas are beginning to show a slight uniform elevation above the surrounding skin. All the gradations in development between this stage and the

large pedunculated tumors are to be seen here. Apparently the lesions start as a folliculitis.

Albert, in 1810, described the condition now known as keloid, but called it "cancroid." Later he used the former term, and recognized two types of the affection, *true* or *idiopathic keloid*, and *false keloid*, which arises from a scar. The difference between these two forms he believed to be that the true keloid occurred without any discoverable origin, and the false always followed a scar or injury to the skin. This distinction held until about 1870, when it was questioned by Hutchinson. As to the etiology of keloid, it is now generally believed that this distinction between true and false keloid does not hold, and that in the so-called idiopathic cases there has been some previous injury to the skin, although the exciting cause cannot always be found. Keloid has been known to follow burns, cuts, flogging, caustics, boils, acne, vaccination, prickly heat, herpes zoster, psoriasis, syphilis, leprosy, tuberculosis, and smallpox. The disease does not seem to be influenced by sex or age, but is very much more common in negroes than in the white race. Heredity may play some part, and I find one case reported by Burnett in which eight members of a family—the father, five children and two uncles—had been affected.

The pathology of the disease has been worked up fairly well. Keloid tumors are fibromata, arising in the corium of the skin. An attempt has been made to distinguish between true and false keloids on a pathological basis, but recent work seems to show that this cannot be done. The tumors start in the cells surrounding the blood-vessels, and as they grow become more and more fibrous. So-called "idiopathic" keloids can arise anywhere, and, if multiple, may spread to any part of the body. In a few cases of multiple keloid which I have found reported there has been a history of some injury, with the development of a definite scar keloid at that point, and later the appearance of more or less numerous tumors over the rest of the body. I can find no case in the literature in which the development of the tumors has been as rapid as in this case, or in which they are as numerous.

In regard to differential diagnosis, you have to think of fibroma molluscum and of multiple myomata of the skin. The latter is exceedingly rare, and presents a different clinical picture. The appearance of the back, with its pedunculated multiple tumors, is suggestive of fibroma molluscum, but the cartilaginous hardness and striated and retracted surface is characteristic of keloid. The linear and clawlike arrangement of the growth on the chest and arms is typically keloidal. Several tumors have been removed for study, but are not yet ready for microscopical examination. These will doubtless settle the diagnosis, and may possibly throw light upon the etiology of this case. In a condition of this kind operative procedures would probably only aggravate the trouble. Various methods of treatment have been tried, but the difficulty in judging the results lies in the fact that certain forms of keloids seem to have a tendency to disappear spontaneously, particularly if they arise in early life. Injections of monochloracetic acid or creosote oil have been used with some success.

Dr. Howard A. Kelly: I would like to call attention to this fact, that out of several thousand cases of abdominal section I have never seen but one case in which keloids followed in the abdominal scar. That was in a colored woman, and it was impossible to remove the keloid by operation.

Dr. T. B. Futcher: "Report on Pneumonia Cases."

I will simply make a brief reference to our experience with pneumonia cases in the hospital during this year. At the beginning of each session a committee of third-year students is appointed to follow all pneumonia cases. Before each Wednesday clinic each case is recorded, with all points of special interest in connection therewith. The table on the blackboard before you includes such records, and contains the name of the patient, the date of admission, date of discharge, duration of the disease, seat of involvement, the defervescence, whether by lysis or crisis, or death, the leucocytosis, complications, and remarks.

I have collected some of the points of interest from this table and will briefly refer to them. We have had altogether forty-eight cases so far. Dr. Osler has divided the pneumonias into five groups, which classification is used in the official report before the class. The first group includes the ordinary cases of acute lobar pneumonia; the second includes the ether pneumonias, Drs. Halstead and Kelly permitting the medical side to make use of their cases for study; the third group includes the terminal pneumonias—that is, where it comes in as an intercurrent affection in the course of some other disease; the fourth group contains the pneumonia cases with complications and sequelae, and the fifth group all cases diagnosed at first as pneumonia, but which eventually prove to be something else.

In the forty-eight cases we have had one case of empyema, three cases of pericarditis from extension, one case of otitis media, one of pneumococcus meningitis, which was diagnosed before death by means of lumbar puncture, and one case of thrombosis of the internal saphenous veins. This last is a very rare complication, only two cases of thrombosis of the veins in pneumonia having occurred in this hospital since its opening. One case was a double femoral thrombosis, coming on after the acute symptoms had subsided. This last case was a thrombosis of the right internal saphenous vein, developing during the acute symptoms, and the patient died. Amongst the sequelae there was one case of parotiditis, a very infrequent occurrence after pneumonia. In that case there was a normal temperature for a few days, then a rise, with swelling over the left parotid. The gland eventually suppurated, required opening, and cultures from the pus showed streptococcus and pneumococcus. There were quite a large number of cases—ten (20.8 per cent.) that showed jaundice.

An interesting point in the series has been found in the cases that showed a general pneumococcus septicemia. Dr. Cole told me this evening that he has taken cultures in eighteen cases, and isolated the pneumococcus in pure culture in six cases, and to show the gravity of this condition it may be added that these six cases all terminated fatally. I would like to mention here another case of pneumococcus septicemia that was not associated with pneumonia. A colored man, sixty-five years of age, com-

plained of pain in the knee-joints for several weeks. Four days prior to admission he had a severe chill, became delirious, and then had a distinct stiffness of the neck muscles. There were no very definite signs of pneumonia, but a meningitis was suspected, and on lumbar puncture the pneumococcus was isolated in pure culture. From the right knee-joint cultures were taken and the pneumococcus again obtained. The case eventually came to autopsy, and it was found that he had had a rheumatoid arthritis of several joints, with an acute pneumococcus arthritis following this.

Thirteen of our cases have died, showing a mortality of 27.08 per cent. This is practically the same as reported in the first series of cases from this hospital and published in Dr. Osler's book. The statistics from various hospitals seem to indicate that, no matter what the treatment, the mortality is practically the same in all large hospitals. In the Pennsylvania Hospital the mortality is 29 per cent., in the Baltimore City Hospital 29.1 per cent., and last year our percentage was higher than it has been so far this year. Of the forty-eight cases, thirty-one occurred in white people, with ten deaths, a mortality of 32.2 per cent., while of the seventeen colored people only four died, giving a percentage of 23.5.

The drop in temperature has been somewhat interesting, as most of us think that the temperature, as a rule, in acute lobar pneumonia drops by crisis. That has not been our experience this year, for crisis occurred in but thirteen of these cases, while in twenty-two cases the temperature fell gradually.

A word in regard to the treatment. The patients when admitted to the wards are given stimulants at once, if necessary. Whisky and strychnia are usually given at first, and if the pulse becomes weak and irregular we usually give digitalin hypodermically in fair-sized doses. Locally we use the ice-bag over the inflamed area. This year all cases have been given cold sponges whenever the temperature reached 102.5° or higher, and I think it has given pretty satisfactory results. The object is not to reduce the temperature, but the beneficial effects consist in toning up the pulse and relieving the tendency to delirium. In some way or other it seems to aid in the elimination of toxins. When the pulse becomes feeble and rapid we usually give intravenous or subcutaneous saline infusions. In a good many cases oxygen has been tried, but I do not think our results from these inhalations have been specially satisfactory.

Dr. W. S. Halsted: "A Case of Acute Hemorrhagic Pancreatitis."

I had expected to show some gallstone cases tonight and an incision of the gall-bladder that presented some interesting features, but it has been impossible to get the patients here, and so I will speak of a case which will perhaps interest you more, though it does not redound quite so much to our glory. If I can make it clear to you, however, that it is necessary when we have certain symptoms present that one should bear in mind the possibility of acute pancreatitis, and enable you to make the diagnosis, I shall have been rewarded for what I expect to say tonight. It is most humiliating to make a mistake in diagnosis when a case is pretty clear, but I am sure I could so describe this case that the diagnosis would be not at all clear,

though if I should have precisely such another case I think I should make the diagnosis.

One of our first cases in the hospital was one of acute hemorrhagic pancreatitis in all probability. It figures in the literature, as Dr. Osler and I both saw it, as a case of intestinal obstruction. An operation was performed, and in spite of it the patient recovered. Whether we would today regard such a case as one of acute obstruction I do not know, but I am sure we both know more about such things than we did. It is rather strange that I should have had two cases of this kind, for most surgeons have not had any. Hahn seems to have seen the most of this disease, and has recently reported five cases of acute hemorrhagic pancreatitis. He suspected its existence in two of the cases, and was quite sure of it in one. I had just read his article before I saw this last case, and had made up my mind when reading it that when I came across a case of the disease I should not make a mistake in diagnosis. He said that the symptoms were a sudden onset, a condition of collapse, the pulse, as a rule, about 140, with persistent vomiting, resembling intestinal obstruction, pain not emphasized, but the abdomen distended. The patient I saw a few days ago had no distension of the abdomen; in fact, he remarked that it had been getting smaller during the last few weeks; he was not collapsed, there was no vomiting, the pulse was one minute 92, the next 87, and he did not have very severe pain. He could not keep still long enough to make an examination, but that wouldn't have made much difference, for I confess that pancreatitis did not suggest itself to me. The pain was so severe that morphia failed to control it. He gave a clear history of previous attacks of gallstone colic. He had come here from the West, dined at the Stafford, and soon after had an attack of acute pain. One of his friends in town was a surgeon, who naturally accepted his statement about previous attacks of gallstone, and considered this an attack of colic. He continued to take his meals somewhat irregularly, and for nine days slept well. On the day I saw him his pain had become suddenly very bad about noon, and he had taken a grain of morphia between that time and 9 in the evening, when I arrived. I examined him for a moment only on the bed, found him very sensitive below the ensiform, not more so than gallstone cases often are, but the pain was greater than I had ever heard a patient describe. He had had so much morphia and was so nervous that I thought perhaps he was not altogether responsible. We tried to persuade him to go to the hospital at once, but he refused. I suggested the use of hot baths, and during the night he took three, each lasting twenty minutes, and each accompanied by the most perfect relief. The next morning, however, he was willing to come to the hospital, where he was promptly etherized and operated upon. As soon as we opened the abdomen we found bloody fluid and numerous little areas of fat necrosis, which made the diagnosis for us. At the end of the next twenty-four hours he died. The points I wish to refer to particularly are the pain and the asphyxia. I remember that when I put my hand on the abdomen between the ensiform and the umbilicus I was struck by the appearance of asphyxia of the abdomen. It was not great, but enough to show the impact of the

hand, as is seen occasionally in people with bad circulation. Here, however, was a man apparently strong and hearty. When you have a patient, however, with pain in that position, and you note the local asphyxia, say to yourself, I must consider acute hemorrhagic pancreatitis.

The autopsy was most interesting. Dr. Opie performed it in the most careful manner, and is still studying his findings. Here is a painting showing the condition of the pancreas as seen at the autopsy. There was a little stone not much larger than a millet seed occupying the diverticulum, just at the papilla, and the orifice of this papilla was so small that a probe could not be passed into the common duct. The stone was so small that it was only found after hours of the most careful searching.

I have reported this case in the hope that some of you will make the correct diagnosis. Not that it will do the patient much good if you do, but it will save you some humiliation, and it is high time that an American surgeon should make the diagnosis of acute hemorrhagic pancreatitis. Remember that it is not necessary to have a distended abdomen, it is not necessary that the patient should be vomiting, nor that he should be in a state of collapse, and that he may, in fact, have nothing but an excruciating pain and an abdominal asphyxia. Hahn recommends operating in these cases quickly, taking out the blood and packing with gauze. That is what we did, but we did not operate as quickly and as early as we should have done. One of Hahn's cases recovered after such an operation, but one of ours recovered in which we did nothing but open the abdomen, and I do not feel sure that if I had the disease and knew it that I would ask a surgeon even to open the abdomen. Dr. Bloodgood once made the diagnosis of acute suppurative pancreatitis, and it was a very pretty diagnosis, but that is another affair.

Dr. W. S. Thayer: When I was house officer at the Massachusetts General Dr. Fitz published his collection of pancreatitis cases in a very good report. I had the good fortune at that time to see a case, and reported it in the *Boston Medical and Surgical Journal.* It was a man who had had gallstones, but had an attack of pain much more severe than ever before, and associated with collapse. The pain was directly in the median line, and was very severe on attempting to palpate the spleen, pressure over the lower left ribs bringing out intense pain. It is easy to see how such pain might arise when one remembers that the tail of the pancreas runs directly into the hilus of the spleen. Vomiting was not a striking symptom. Distension was not present, but there was distinct cyanosis, and the man died within seventy-two hours. In that case the gallstone was not impacted, but was found lying in the duodenum, just beside the papilla, which it had probably just passed through.

I was very much interested in what Dr. Halsted said about the condition of cyanosis, for it was very striking in my case.

Dr. J. W. Chambers: Within the last two weeks I have had the fortune or misfortune to see just such a case as Dr. Halsted describes, and I was just as fortunate in my diagnosis. The man was taken sick on Sunday morning, and the pain was so intense that, morphia giving no relief, he

resorted to chloroform. He was brought to the hospital with a diagnosis of gallstone. On opening the belly I found no stone, but a lot of blood, and, like Dr. Halsted's patient, this man died on the second day. I was not permitted to do an autopsy. I think it was pretty clearly a case of acute pancreatitis, and certainly I did not have any suspicion of it until I operated. Nor am I quite sure that I shall make the diagnosis next time. There are a good many things about the belly that you recognize best when you get inside, and some things that I have been in doubt about even then. Several years ago I saw Dr. Councilman make an autopsy upon a case supposed to have died of abdominal trouble, and Dr. Councilman was not ready to report on that case when I saw him recently.

Dr. H. A. Kelly: "Bisection of the Uterus—Exhibition of Specimens."

Owing to the lateness of the hour I will simply present my conclusions. Many of you will remember the sudden drop in mortality that occurred with the introduction of antiseptic methods. There has still remained, however, a residuum of anywhere from 3 to 5 per cent. of cases which we lose with our best work. It was in an attempt to lessen this number that I have worked out a plan of operating which I think is of very decided advantage in some cases. The cases which die are the worst ones—those in which tumors are jammed down in the pelvis, are attached to the walls by adhesions, and in which the tumors of the uterus, ovaries and tubes combine to form one large matted mass down in the pelvis. The difficulties of the situation are found in getting the tumor out within a reasonable time and without any injury to the surrounding structures. Patients with such troubles are often feeble, unable to stand the prolonged operations, and yet they come to the table for what has been perhaps the longest operation in abdominal surgery. We have been obliged to work at a distance, because the tumor fills the pelvis, and we have to work in a crack. In order to gain the advantage of getting the tumor up within easy reach and dealing with adhesions without hurting surrounding tissues, I have devised a plan which has so far worked admirably.

When there are no attachments by adhesion we can go down on either side of the organ, tie the vessels, cut off the tumor and take it out. When we get a case with more or less adhesion on one side, the method of tying off one side is used, although it is difficult. There is a group of cases which cannot be handled in this way. Let us suppose a case in which the structures are adherent in the pelvis on both sides. In such a case there is no easy side, and it is difficult to get even a start. I catch the uterus and boldly cut down through its center. It bleeds, but only from the vessels in the uterine wall. As soon as I enter the cavity I run a sound into it, and reattaching the clamps as I open it up, I spring the uterus apart and out of the incision. It is more difficult to describe than to do. Having bisected it, I cut across the cervix and catch the uterine artery. Then the cervix is caught beneath with forceps and drawn up so that the cornu can then be clamped and the uterus cut off. One side is thus drawn out, being hinged near its broad ligament, and this can be cut, and then the other side removed. We hear a great deal of discussion in medical societies about how

to deal with bowels that have been injured. In this operation we have not had any injuries to the bowels.

There is an important modification of this operation to be used in cases in which, when we open the pelvis, we find the sigmoid flexure adherent over the uterus and the latter entirely buried, nothing of the lateral structures being seen. In such cases you cannot bisect the uterus from above without cutting the bowel. The bladder adhesions can always be easily detached. The anterior face of the uterus may then be bisected down to the cervix, and then the posterior walls bisected from below up, carefully undoing the adhesions and drawing out first one-half and then the other of the organ. One other point has proven very valuable. Take a case of adherent retroflexed uterus with dense adhesions. An admirable procedure is to catch the cervix with forceps and thrust it up towards the incision in the abdominal wall. I have been able to gain as much as 5 cm. by this method. The cervix is then cut horizontally across, the uterus split from below up, and first one-half and then the other removed. We have in this method an easy way out of difficult cases without producing injury and without hemorrhage.

Dr. Halsted: I endorse what Dr. Kelly has said most heartily. Although we do not operate upon the uterus, I have for many years excised tumors in this way, especially fibroid tumors which had no capsule and which were not circumscribed. When impossible to enucleate them I split them and enucleate from below, not encountering any special arteries, of course, as Dr. Kelly does, but tying any vessels we may happen to meet.

Dr. W. S. Thayer: "Aortic Insufficiency."

We have had several cases in the house recently that have shown a murmur of a sort that has been recognized for many years, but the frequency of which has not been generally understood. In 1862 Dr. Austin Flint called attention to the fact that in some cases of aortic insufficiency one might hear in the region of the apex a characteristic presystolic murmur like that heard in true mitral stenosis, and yet at autopsy the mitral valve would be found perfect. Flint published two cases, and explained them as follows: That, owing to the reflux of blood from the aorta, the mitral valves were floated into a condition approaching closure at the same time that the blood came in from the auricle, thus representing a condition of stenosis similar to that due to organic mitral disease. Since Flint's time a good many others have noted the same murmur, but some have modified his description, and have been inclined to think the cause of the murmur was rather the direct falling of the stream from the insufficient aortic valves upon the anterior margin of the mitral valve, so that it was caught between two streams, one coming from the aorta and one from the auricle, and the result was practically the same as in true stenosis.

My attention has been called to this matter because during the last several weeks I have been going over all our fatal cases of aortic insufficiency that have come to autopsy, and I find that we have had a presystolic murmur in thirty out of fifty-five uncomplicated cases. That it does not depend upon disease of the mitral valve is shown that in a larger percentage of

these cases the murmur was greater in those cases in which the valve was absolutely normal than in those in which there was some thickening and retraction of the valve, with insufficiency, but without stenosis. The point I wish to emphasize is this—that it is not uncommon to have a true vibratory, rumbling murmur limited to the region of the apex, sometimes associated with a thrill, in cases of insufficiency, without any mitral stenosis.

How is one to make a diagnosis? It is often difficult, but this much one can say: True mitral stenosis, even if associated with aortic insufficiency, is almost always accompanied by a tapping systolic impulse and a snapping first sound. Perhaps the most important point of all is the fact that the Flint murmur is of common occurrence, and not uncommon, as is stated in most of our literature.

Dr. O. D. Pancoast: "Exhibition of a Traveling Operative Trunk."

Anyone who has had much to do with operating outside of the hospital will realize its many difficulties. Among these is, first, the fact that you practically never have a proper operating table and never a number of suitable basins at hand. In getting up this trunk we bore in mind these two desirable features especially, and as we have to take a trunk anyway for every major operation out of town, we thought it possible to economize space by having a trunk so made that it would carry basins and such things as were needed, and also be adapted for use as a table. We accomplished this by having the trunk so constructed that it opens endwise instead of sidewise, and by a screw it can be fixed in the extended position. We carry with it a set of legs and a Trendelenberg frame, which is adjustable. It makes a table of about the proper height and width and which can be kept perfectly clean. It is covered by blankets and a mackintosh, and if desired a Kelly pad may be carried. The set of basins is seen here. There is one large iron basin in which are five instrument trays. These can be readily sterilized and covered with sterile towels while operating. The smaller basins can be used for solutions, sponges, etc., and there is also in the set a pitcher and pus basin; in fact, we have to make no demands upon the family or, as is so often the case, upon the neighbors. By using the ordinary mailing cases we can carry concentrated salt solution, cocaine, carbolic acid, oxalic acid, etc., without wrapping them.

Dr. W. W. Russell: Dr. Pancoast has been altogether too modest in his description of this outfit, and I want to say that he deserves the full credit for planning this table, as it is entirely his work, and you can all appreciate what a great advantage it will be for outside work. He deserves the thanks of all the men who do surgical work outside of the hospitals.

Dr. W. L. MacCullum: "A Case of Primary Carcinoma of the Bile Ducts."

The disease is perhaps not so rare as might appear from the literature. It is practically always associated with gallstones, and is hence commonest in women. As to whether the presence of gallstones is the causative factor or the result of the development of the carcinoma there has been some discussion, but as in most cases there has been a previous history of gallstones, and as the carcinoma is very rapidly lethal in its course, the inference, especially when a large stone is found in a gall-bladder occluded by the

carcinoma, is that the gallstones was pre-existent. The scarred condition of the wall of the gall-bladder in such cases is also evidence of the pre-existence of the gallstones. The carcinoma may begin in the fundus, where the stones lodge by gravity, or at the neck, into which they are forced. It may be limited to a portion of the wall of the scarred bladder, or, on the other hand, reach a great size, and by becoming ulcerated greatly enlarge the cavity of the gall-bladder. Extension into the adjacent organs may occur, the liver, colon, duodenum and stomach being often involved. Often the tumor extends along the cystic duct into the common duct, causing stenosis and icterus. The scirrhus seems to be the predominant type, although soft adeno-carcinomata, flat-celled epitheliomata and colloid carcinomata may arise.

The diagnosis is a difficult one in most cases. Symptoms may be entirely lacking, but, as a rule, pain in the region of the right hypochondrium is an early symptom associated with the appearance of a nodular, tender mass. Icterus of a constant type, as distinguished from the sometimes intermittent icterus of gallstones, with enlargement of the liver, is characteristic. The mass may compress the pylorus and be movable with it, so that the differentiation from a pyloric new growth is difficult, especially as hydrochloric acid may be absent and lactic acid present in the gastric juice in such a case. The course of the disease is, as a rule, rapid, and averages about three months.

The woman from whom this specimen was taken was sixty-six years of age, and had been subject to attacks of nausea and vomiting for ten years. In the fall of 1900 she became much worse, and complained of pain in the right hypochondrium. On the first of January, 1901, she had a severe attack of pain, with nausea and vomiting. Three weeks later jaundice appeared and persisted. She lost in weight and strength very rapidly. The stomach was markedly dilated, but no tumor could be made out. There was constant abdominal pain, and a test meal showed the presence of lactic acid. The leucocytes arose to 4400 on March 6, when the patient went into collapse and died.

At the autopsy the gall-bladder, about which the adjacent organs were densely adherent (exhibiting specimen), was contracted down over a number of gallstones, one of which, about as large as a walnut, was firmly impacted in the neck of the bladder. The mucosa in general was much scarred, and beginning at the neck, underneath the large stone, was the tumor mass, which appeared as a whitish nodular thickening of the mucosa. This mass extended along the ducts, forming a thick, firm, folded lining throughout the whole length of the cystic duct and of the common duct down to the papilla and upward far into the liver. Great stenosis of the ducts was thus produced, and although there was no bile in the gall-bladder, the bile ducts within the liver were greatly distended with dark-green bile. There were numerous metastatic nodules on the liver and scattered over the peritoneum, the metastasis as well as the primary tumor having an alveola type, in which the epithelial cells were relatively small and rounded.

H. O. Reik, Secretary.

Book Reviews.

Atlas of the Nervous System, including an Epitome of the Anatomy, Pathology and Treatment. By Christfried Jakob, M.D. Authorized translation from the second German edition. Edited by Edward D. Fisher, M.D. Philadelphia and London: W. B. Saunders. 1901.

As a rule, epitomes are not to be commended. The present volume is an exception to the rule. This book, containing 218 pages of text and eighty-four plates, is an excellent translation from the German, and the illustrations are well reproduced. The volume is one of the best in the excellent series to which it belongs.

The first half of the book is devoted to a description of the general morphology and physiology of the central nervous system, followed by an excellent presentation of the principal facts connected with the more common pathological changes in the brain cord and peripheral nerves. This is followed by an outline of the methods of diagnosis and treatment.

The concluding section deals with the autopsy technique and the microscopical examination of the nervous system. Although the book contains a great deal in a small space, the author has been very fortunate in not introducing any of the errors so characteristic of the quiz compend. It would be difficult to praise the book too highly. The book contains much that is of value to the medical student, to the general practitioner, and to the specialist. S. P.

American Text-Book of Physiology. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in Johns Hopkins University. Vol. II, royal octavo, of nearly 600 pages, fully illustrated. Cloth, $3 net; sheep or half-morocco, $3.75 net. Philadelphia and London: W. B. Saunders & Co. 1900.

For the second volume of the second edition of this admirable treatise on physiology by American authors the physiology of muscle and nerve, the central nervous system and the special senses, the physiology of special muscular mechanism, and reproduction are considered by Drs. Lombard, Donaldson, Bowditch, Sewall, and Lee. The work is admirably done in every particular; the subjects are presented in clear, concise form; the germ of the important theories is ably presented without burdening one with a mass of details, and in every way the book is so satisfactory that, with its sister volume, we consider it undoubtedly the best American text-book of physiology. B.

The Feeding of Infants: Home Guide for Modifying Milk. By Joseph E. Winters. Price fifty cents. E. P. Dutton & Co. 1901.

This little book of fifty pages will be found very useful for practitioners as well as for mothers. Numerous formulae are given for the proper modification of milk for infants of all ages, in health and in disease. The practical points, so essential to success in infant-feeding, are considered briefly, and there are several charts of analyses of milk and cream that will enable anyone to prepare food of definite percentages. J. L. H.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, JULY, 1901.

THE DECLINE OF MEDICAL SECTARIANISM.

IN the excellent address of Dr. C. A. L. Reed, president of the American Medical Association, there is an interesting account of the history of the regulation of medical practice in this country. The results of statutory regulation, he says, "are in striking contrast with the results of the quarter of a century of attempted regulation by methods of proscription." The practical standardization of requirements to enter practice has led to "broadened and increasingly uniform curricula," so that it can no longer be said "that schools, even of sectarian antecedents, entirely 'reject the accumulated experience of the profession,' nor can it be said that in a sectarian sense they any longer possess an excuse for existence."

At the recent meeting of the Maryland Homeopathic State Medical Society there occurred a small *contretemps* which delighted the reporter's "nose for news." Some one lamented the decay of the dogmatism of homeopathy, and was so imprudent as to add that without their sectarian distinctions the schools would perish. Some one else said that the "Similia" coach had been discoupled from the train of progress, and that one must go in the "ordinary" or be left. This is a fair paraphrase of the newspaper story, which we accept as reliable. Precisely such a dilemma confronts all the sectarian schools of medicine. The ultimate death of the sectarian training schools does not concern the profession or the public so much as it concerns those whose qualifications would be more marketable, if not better, without a sectarian press mark. That many homeopathists, and those the ablest, choose to announce themselves simply as physicians, without mention of their sectarian training, shows that they expect to be esteemed according to their individual abilities and by the whole community. This brings the homeopathists into strong contrast to those sectarians who must proclaim a dogma, because their appeal is not to the whole public for lasting support, but to the more or less transitory interest of those who are moved by the shifting winds of doctrine.

The absence of distinctive signs from homeopathic offices may not signify dissatisfaction with sectarianism, but in some instances it probably has just that significance. The influences which lead young men to be trained in sectarian schools are, like those which determine their social or religious affiliations, usually accidental. But the first step in science is the abandonment of every preconception, and this the true student of medicine will inevitably do if he be soundly trained in the four fundamental branches. Even if this fundamental instruction be no more thorough than will just meet statutory requirements, it must produce many students who will no longer accept as true anything stated upon mere authority. From such men the teacher of medicine who does not proceed according to the logic of the laboratory can command but scant reverence.

The initial impulse, however, usually carries one through a sectarian school, and interest may hold him fast to his distinctive title ever after. But it is inconceivable that interest can control even a majority of those who fairly enter any scientific pursuit. It would be interesting to know how those sectarians who become true observers and attain real excellence as medical practitioners regard their badges. To such a man a proprietary label must seem worse than insignificant. It robs him, in appearance at least, of scientific independence, of liberty to observe by white light. His progress is marked at every step, whether he will or no, by the flaunt of an ancient apron-string. The heir of all the ages with a scholar's chin above a pinafore, and at his heels a nurse with safety-pins! However formal his obedience, this sectarian emblem is a trammel, and he cannot display it with particular pride whether the thing it signifies be true or false. Yet it can hardly be worn as a minor ornament, and to shed it entirely is very difficult.

Commenting upon this phase of medical sectarianism, Dr. Reed alludes to the action of the Illinois State Medical Society in passing unanimously at its last annual session the following resolution:

"*Resolved*, That the school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local societies as qualified and not claiming to practice any exclusive system of medicine."

In New York State we are told that "the annual registration of sectarian physicians has diminished nearly 90 per cent. under the operation of its present laws." In Ohio many denominational physicians are said to be applying "to have their classification on the register changed to 'regular.'"

So far as we know there are no homeopathic physicians in Maryland who desire admission to the State Faculty. An invasion of that sort has never seemed likely, but a fence was long ago built against it, nevertheless. If we should at the present time examine those parts of the constitution which relate to sectarian medicine we should probably find, as has been discovered in California, Colorado, Illinois, Ohio, New York, Massachusetts, Rhode Island, Mississippi, Alabama, that some of them have, as Dr. Reed says, "grown obsolete in the march of events," insomuch that if the question which we have here hinted at should arise in Maryland we should have to make choice between these alternatives—either to make the wall passable, allowing the recognized, qualified physician of homeopathic training to shed his sectarian slough and come in, or else to assume ourselves that exclusive sectarian attitude which hitherto we have so strongly condemned.

A MEMORIAL TO A COUNTRY DOCTOR.

An event which will arrest more than the passing attention of the medical profession occurred on June 12 in the country churchyard of Old Trinity in Dorchester county, when a monument was unveiled to the memory of Dr. Thomas King Carroll, who died on January 9, 1900, in the eightieth year of his age, and after fifty-three years of active practice. More than 200 persons contributed to the monument fund, and all of them were or had been patients of Dr. Carroll. The chief inscription on the monument is:

"Erected to Dr. Thomas King Carroll by the people who hold in loving remembrance his fidelity to duty, his untiring devotion to his patients, and his heroic self-sacrifice in a time of pestilence. A physician who faithfully served his community for fifty years."

These two sentences include the reasons why every such man should be long held in loving remembrance, but it is extremely rare that public testimony to the worth of a faithful physician takes such enduring shape. From an intimate acquaintance with Dr. Carroll the present writer can say that the tribute was most justly due.

Dr. Carroll would probably have described his practice as arduous, but he would have laid no particular emphasis upon the adjective, and no one but a country doctor could have appreciated the story of one of his days. His family lived on a farm, five miles from Cambridge, and here he stopped once or twice in twenty-four hours to get new calls and fresh horses. Occasionally he took rest and refreshment here, but his real home was in his carriage. He was never tired, nor ever in a hurry; darkness, storm, tide, fatigue, poverty, ingratitude, all the devices of man and the elements, could not keep him off the road, but his very horses knew the signals of distress, and halted at every wayside cry. He seldom made his appointments definite as to time, and his watch was simply a clinical tool. A smart young man might have thought that the people were very patient with Dr. Carroll, and so they were, but their patience was but a pale reflection of the everlasting patience and industry of the doctor. A smart young man might have thought that more work could be done in less time. Dr. Carroll ran too and fro very little, but he went around and around constantly; he was at the place where he was most needed as often as any other man, and he always treated the business immediately in hand as if he had none more important.

In an appreciative address, Mr. Laird Henry tells us of an epidemic of smallpox in a community of poor blacks in the winter of 1872, when Dr. Carroll alone carried the whole burden of the outbreak. No other man entering the infected area, he provided for three months, at his own cost, food, attendance, medicine, fuel, coffins. The county asked for an itemized bill, including fees. Oh, no! But his outlay was reimbursed? No. The rewards of his practice enabled him to be so generous? No. A stout heart and a ready hand were his assets, and they sufficed. His income from medical practice was at that time perhaps the largest in Dorchester county, but with the rolling in and rolling out of dollars he had no concern. As the tail goes with the hide, so the bawbees went with the rest, being the least part of what the gods gave him to spend.

There were others. A certain young man, commencing practice in Dorchester county in the early eighties, was most fortunate to form friendships with three ideal country doctors. They were not men of one mold, nor much alike. All were past sixty and in sound health. They had been well schooled both in letters and in medicine. They gave loyal and devoted service to their patients, and they maintained true professional morality. One of them is yet alive, and so, God bless him, disqualified to be duly praised. Their best monument is found in the professional virtues of the present generation of medical men in Dorchester.

Medical Items.

M. Fournier is president of a new society, the Leag against Syphilis. Syphilis is Parisian enough, but Leag must have come from Philadelphia.

The new hospital connected with the Maryland Medical College will be known as the Franklin Square Hospital, instead of the National Temperance Hospital.

The ordinance for an Infectious Disease Hospital names as the hospital commission Dr. James Bosley, Dr. I. E. Atkinson, Dr. Wm. H. Welch, Dr. John W. Chambers and Dr. John D. Blake.

A local health officer in Rockland county, New York, Dr. A. S. Zabriski of Suffern, has, it is said, diagnosed a number of cases of smallpox as "Cuban itch." The State Commissioner of Health is investigating the circumstances, and the health officer will probably be retired.

In Cleveland, Ohio, which is suffering more heavily from smallpox than any American city, the mayor, Tom Johnson, is opposed to vaccination, and says he will not have any "putrefying animal matter" put into his system. What Cleveland needs is storage-room for facts in Tom Johnson's noddle.

The trustees of the Sheppard and Enoch Pratt Hospital for the Insane will erect a recreation building for the use of patients at a cost of about $15,000. The house will be built on the casino plan, one story in height, and will be divided into two departments, one for women and the other for men.

Health Commissioner Bosley, being unable to obtain funds to push his campaign against mosquitoes, has distributed notices to all the householders in Baltimore, asking them to apply about a gill of coal oil to each sink every fortnight. He hopes in another year to be able to carry out this work through the health department officials and at public cost.

The American Medical Association will meet at Saratoga in 1902. The officers are: President, Dr. John A. Wyeth of New York; vice-presidents, Drs. Alonzo Garcelon of Maine, A. J. Stone of Minnesota, A. F. Jonas of Nebraska, James A. Dibrell of Arkansas; treasurer, Henry P. Newman of Illinois; secretary, Dr. George H. Simmons of Illinois.

Five of the leading physicians and surgeons of Chicago have formed a partnership to build a large private sanitarium and hotel at a cost of $400,000. The leading idea of this enterprise is to meet the convenience of patients coming from a distance accompanied by relatives or friends who would prefer the combined hotel and hospital to the apartment-house and general hospital.

At Trinity Hall Military School, in Washington, Pa., a tablet was unveiled on Tuesday, June 18, to the memory of Dr. Jesse William Lazear, who lost his life in the prosecution of the very successful investigations into the etiology of yellow fever at Havana. Those who were associated with Dr. Lazear at Johns Hopkins Hospital are also planning a suitable memorial of his brief life and great services.

John Alexander Dowie announced to his congregation at Zion Tabernacle on June 16 that certain Chicago physicians had formed a plot to kidnap him, the reincarnated Elijah, to take him to a hospital and there torture him into insanity. He insists, however, that he is immortal until his great work is accomplished. He held a special meeting of the male members of Zion to take defensive measures against the conspirators.

Dr. Wm. Hudson Daly shot himself at Pittsburg on June 11 while suffering from melancholia. He started the "embalmed-beef" controversy during the Spanish-American war, having experimented upon himself with some beef at Tampa. He was an influential man, a member of many American and foreign societies, but had suffered much from mental depression, which first appeared two years ago, when he lost his wife.

Near Matteawan, N. Y., a farmer captured a barefooted man and held him for the $25 reward which is a standing offer for the detention of escaped lunatics from the State Hospital for the Insane. Persons in that vicinity are usually on the lookout for queer-looking pedestrians, but in this case the captive was able to prove his identity, and explained his shoelessness by saying that he practised the Kneipp cure. He was advised to wear shoes in order to avoid recapture.

THE most important medical news of the month is perhaps the foundation of the Rockefeller Institute for Medical Research. The purpose of Mr. Rockefeller's generosity is to foster the study of those problems in medicine and hygiene which have practical bearing upon the prevention and treatment of disease. The work begins with a sum of $200,000 to be expended in ten years upon the prosecution of promising researches. Eventually the institute will have a permanent home. The directors are: Dr. Wm. H. Welch, president; Dr. T. Mitchell Prudden, vice-president; Dr. L. Emmet Holt, secretary; Dr. C. A. Herter, treasurer, and Drs. Theobald Smith, Simon Flexner and H. M. Biggs.

AT the spring examinations of the Maryland State Licensing Board an attempt at fraudulent registration by the impersonation method was detected. A young man, thoroughly qualified, and said to be the son of a well-known Philadelphia physician, presented himself and was assigned the number 55. He attended on two days and finished twelve papers, all of which he signed "55—Riverside." To the formal statement that he had not given or received any aid in the preparation of his papers, he signed the name of Joseph Preston Duncan, M.D., of Riverside, N. J. The man was recognized by two persons who were present at the examination, and a detective sent to his home in Philadelphia learned that the young man was in Baltimore on his way to Virginia. Dr. Duncan, whose name was used, is a graduate of a Baltimore school of medicine, and when seen at his home in New Jersey denied all knowledge of the impersonation. The Maryland certificate entitles one to register in New Jersey.

THE health officer of Braxton county, West Virginia, Dr. L. L. McKinney, was arrested on June 21 for stopping the United States mail. Three days previously, on June 18, a hospital car containing two smallpox patients en route to the pesthouse at Parkersburg went on a B. & O. siding at Brunswick, the patients being said to be too ill to travel further. Under instructions of the local board of health, Dr. McKinney notified the railroad officials that unless the hospital car was removed outside the county he would tie up the road with a quarantine order. This order was not obeyed, and when Wednesday's fast mail arrived the fireman, engineer and conductor were all arrested, and the engine was padlocked and chained to the rails. Here the two mail cars and the coaches, with more than 100 passengers, had to remain for three hours. Meanwhile another passenger train came up and could not pass. The health authorities agreed to permit the arrested train to be sidetracked in order that the later train might pass. The railroad people planned to run past the station when returning from the siding, and so escape. The fireman, conductor and brakeman, remaining on the platform, were, however, prevented from boarding the train as it passed the station, so that the train was again held and made fast to the track. The railroad people then moved the hospital car.

FOLLOWING are some interesting extracts from correspondence between Dr. B. C. Wilson of Soldier, Ky., and Dr. S. E. Woody, professor of chemistry in the Kentucky School of Medicine. Dr. Wilson says: "A child four years old was burned on the fire. The burns in each locality, being of moderate severity and strictly superficial, were not sufficient to have caused a fatal result. The burns were dressed in the following manner: First dusted with subnitrate of bismuth, then linseed oil was freely poured on, and the parts wrapped in cotton batting and a sheet wrapped around it, and lastly, a quilt was wrapped around this. The child was put to bed, and instructions were given not to remove the dressing. The child complained bitterly all night long, the parents thinking that the suffering was due to the original burn. About daylight they saw smoke arising from the bed, but, being very ignorant people, thought it was the 'fire leaving the burn,' and did not remove the dressing until later, when the child was dying. Upon removing the dressing they found the inner aspect of the sheet was scorched, the cotton batting burned almost entirely up (over the abdomen) and still smoldering. The child was burned into the intestines in three places, and died in a few minutes. There was not the least evidence or the remote possibility of the second fire originating from the outside, and there was absolutely nothing used but the bismuth and linseed oil." Dr. Woody said: "Under the circumstances, it must have been spontaneous combustion of the linseed oil. The bismuth subnitrate and cotton divided finely, distributed the oil and exposed a large surface to the action of the oxygen of the air. The warmth of the body added to the heat and hastened the oxidation, and the covering confined the heat until the oxidation became an actual combustion."

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 8 BALTIMORE, AUGUST, 1901 Whole No. 999

THE PREVENTION OF TUBERCULOUS DISEASE IN INFANCY AND CHILDHOOD.

By S. A. Knopf, M.D.,
New York City.

LECTURE DELIVERED BEFORE THE SENIOR AND POST-GRADUATE CLASSES OF JOHNS HOPKINS MEDICAL SCHOOL, MAY 28, 1901.

THE importance of this subject I hardly need to emphasize, for the prevention of tuberculosis in children is one of the most essential factors in the solution of the tuberculosis problem.

You know of the prevalence of this scourge in the human race. Every one of you knows some family in which one or several members are suffering from this disease, and others in which for two or three generations it has been considered the family affliction are not rare. The members of those unfortunate families are very often spoken of as having inherited consumption or phthisis pulmonalis.

Let us, for a moment, summarize what we really know of a direct hereditary tuberculous disease. Bacillary transmission, coming directly from the paternal side through sperm, has been experimentally demonstrated. Clinically, however, the cases are exceedingly rare. According to Lartigau[1] there are only four reported cases, and even in these it was possible that there was hereditary predisposition, with subsequent bacterial infection. Benda thinks spermatozoa incapable of transporting non-motile bacilli. Walter[2] examined microscopically 230 different preparations from testicles, and sixty-three from prostate glands, coming from twenty-one patients who had died of pulmonary tuberculosis, and could not find a single bacillus in any one of them.

The extreme rarity of primary genital tuberculosis in the vagina or uterus seems the best clinical evidence that direct paternal bacillary transmission of tuberculosis practically does not exist.

Maternal bacillary transmission, on the other hand, can take place through the placenta, and perhaps even through the ovum. Forty cases of indisputable congenital tuberculosis traceable to maternal origin are now on record. This number, however, is

infinitesimally small compared with the number of authentic cases where the child of a tuberculous mother has been carefully examined without finding the slightest trace of tuberculous disease, either clinically, bacteriologically or pathologically.

Straus,[3] who has made extensive experiments in this direction, repeatedly transplanted portions of the various organs of a fetus from a mother in the last stages of consumption into guinea-pigs, and never succeeded in producing tuberculosis in these animals. Von Leyden[4] failed likewise in his experiments to inoculate tuberculosis with organs taken from a child which had died a few minutes after birth and which had a consumptive mother. Nocard,[5] who only experimented with animals, took the organs of thirty-two feti from four tuberculous rabbits and eight tuberculous guinea-pigs, and inoculated thirty-two guinea-pigs, all with negative results.

Thus it seems that we may consider direct bacillary transmission, even from the maternal side, so exceedingly rare as to leave it outside of consideration in studying how to prevent tuberculosis in childhood. Let us rather assume two cardinal points—first, that tuberculous infection, contracted in whatever way during infancy or childhood, comes from without, and not from within; secondly, that there may, however, exist a hereditary predisposition to tuberculosis. How this predisposition is brought about I would not attempt to explain. It is, however, I believe, reasonable to suppose that the toxins secreted by the bacilli in the lungs of a tuberculous mother, and the general debility caused by them, impair often quite seriously the development of the child *in utero*.

As to the frequency of tuberculosis in childhood, I will not burden this address with many statistics. Permit me to quote only a few of the more interesting ones. Bollinger,[6] in 500 autopsies of children of all ages up to the fifteenth year, found lesions of tuberculosis in 218 cases. In 150 of these the lesions were active, and in sixty-eight latent.

As to the time when children manifest the symptoms of tuberculosis most frequently, Heubner's[7] statistics are instructive. Of 844 infants, of which none suffered from tuberculosis at the time of their admission to the hospital, the development of the disease took place in 3.6 per cent. at the age of three to six months, in 11.8 per cent. at the age of six to nine months, in 26.6 per cent. at the age of nine months to one year. Of 458 children, 14.2 per cent. were found tuberculous at the age of two years; of 376 children, 13.4 per cent. were found tuberculous at the age of three years; of 306 children, 11.1 per cent. were found tuberculous at the age of four years; of 470 children, 7.4 per cent. were found tuberculous at the age of five to six years; of 682 children, 5 per cent. were found tuberculous at the age of seven to ten years.

Let us incidentally remark that even these statistics seem to prove that children are very rarely born tuberculous. We know

from animal experiments that the grosser pathological changes brought about by the bacillus of tuberculosis, such as enlargement of the glands, are not produced before two or three months after the pentration of this micro-organism into the system.

According to Küss[8] the maximum death-rate from tuberculous lesions in childhood is reached between the second and fourth years. As to the *modus operandi* of the infection of children, we have, of course, no statistics. To ascribe the very frequent intestinal tuberculosis found in childhood exclusively to a tuberculous milk supply would be unscientific. There is no doubt that many a child has been rendered tuberculous by food coming from tuberculous cows; but in as many, perhaps even in more cases, intestinal tuberculosis is secondary, and has resulted from the ingestion of pulmonary secretions, since small children never expectorate. Autopsies seem to show that a very large percentage of children have contracted tuberculosis by inhalation, since the bronchial glands harbor the oldest foci, and seem thus to represent the point of entry of the tuberculosis bacilli. The presence of bronchial and pulmonary foci and tuberculosis of the mesenteric glands, when all lesions seem to be of the same duration, may well be explained by a double infection of the respiratory and alimentary tract of the child.

A more recent explanation of the frequent presence of tuberculosis in the bronchial glands, as being also probably due to the ingestion of tuberculous milk, is given by Latham.[9] According to this author the bacilli pass from the intestinal mucous membrane, by way of the lymphatics, to the bronchial glands. From these glands the process spreads to the lung tissue—1st, by direct continuity; 2d, by means of the lymphatics, but against the supposed lymphatic stream; 3d, by ulcerating into a blood-vessel, and in this way disseminating the bacilli all over the body; and, 4th, by ulcerating into a bronchus. The right set of glands is more commonly affected than the left. Latham, whose observations cover more than 3000 cases, admits, however, the very frequently infected air supply as a cause of tuberculosis in childhood. Thus we see that in the young, as in the old, tuberculous infection can take place in three ways, namely, by inhalation, ingestion, and inoculation.

The presence in the family circle of a consumptive who is careless with his expectoration is sufficient to endanger the life of a child, and it is not at all necessary that the child should come in close contact with this individual. Heubner speaks of numerous cases where children from healthy parents, having been sent into a family to board, became tuberculous owing to the presence of a consumptive in that family.

The sputum coming from a tuberculous mother, father, relative or friend is a very frequent cause of the infection of little infants. Here the infectious germs may be ingested by the child with its

saliva, but being kissed by tuberculous individuals is not the only source of the ingestion of tuberculous saliva. Midwives, and sometimes also physicians, will, in the presence of an asphyxiated new-born child, apply the mouth to that of the infant and inflate the child's chest, in order to bring its respiratory organs into play. If the operator is consumptive the danger of imparting his or her disease to the infant is evident. In my recent book on tuberculosis[10] I quoted the remarkable case of Reich, which, I believe, will bear repeating here as an illustration. A midwife in the village of Neuenberg became consumptive in 1874, and died of this disease in July, 1876. Ten children, without hereditary predisposition, attended by this midwife between April, 1875, and May, 1876, died before reaching the age of seventeen months. This consumptive midwife was in the habit of sucking the mucus from the mouths of new-born children, and blowing air into their mouths when there was the slightest sign of asphyxia.

It has happened in my own practice, when called in consultation, that I was assured by the tuberculous mother that since the family physician had warned her never to kiss the child on the mouth, she had religiously refrained from doing so, but while telling me of this devotion I saw her tasting the food she was preparing for the child to judge of its palatability and temperature, using the same spoon with which she fed her infant. In like manner the rubber nipple of the milk bottle may also become a source of infection.

Inoculation during early infancy is relatively rare, if we leave aside the comparatively numerous cases of tuberculous infection through ritual circumcision. I have been able to collect about twenty authentic cases, but the surgical literature of all countries where Israelites practice this rite in the orthodox way continue to contain reports now and then of cases of tuberculous infection through this mode of circumcision. The tuberculous inoculation following this operation manifests itself first as a local disease of the genital organs, from whence it becomes generalized in a great number of cases. The operation of circumcision, when skillfully and carefully performed, is in itself trifling, but the sucking of the prepuce afterwards makes it dangerous, for it is evident that if the operating rabbi should be a consumptive inoculation becomes very possible.

So much for the dangers to which the infant is exposed. When the child becomes old enough to creep about and play on the floor it is exposed to all three methods of infection at once. If there is a consumptive in the family, and he is careless, ignorant or helpless, there will be ample opportunity for the little one playing on the floor to inhale the dust, laden with bacilli, coming from the dried and pulverized expectoration. All children will touch everything on or near the floor, and then put their fingers in their mouths. To conceive of a more certain method of ingesting

tuberculosis is hardly possible. If the child's nails are not clean and closely cut it will inoculate itself with tuberculous substances. This method of infection happens quite often, particularly when the child is suffering from eczematous or other skin troubles. The result may be a local tuberculosis, or more frequently, perhaps, a lymphatic infection. To relieve the itching sensation produced by the irritating nasal secretions of a coryza the child will poke its fingers into its nose, and we may have there the starting point of a facial lupus. Older children are exposed to the same causes of infection, though perhaps in a lesser degree, when playing in public or private playgrounds, kindergartens, etc. That the infection of a child attending school from other tuberculous children of the same class, or even from a consumptive teacher, is possible we must admit, especially in schools where the hygienic conditions are poor and where no sanitary supervision exists.

What remedies have we to suggest to counteract these multiplied dangers to which children are exposed from the ever-present bacillus tuberculosis?

To assure a rigorous prophylaxis against tuberculosis from the very earliest day of childhood I do not know of any better plan than to have printed directions issued by the boards of health, which should be in the hands of every physician and midwife to give to the future mother, to the nurse or the immediate members of the family. These instructions should contain everything relating to prophylaxis, general cleanliness, ventilation, nutrition, etc. The leaflets should be printed in plain, comprehensible language.

While it is now the almost universal practice never to allow a child to be nursed by a tuberculous mother, for the sake of preserving the strength and the life of the mother, prohibiting the tuberculous mother to become the nurse should also find a reason in the interest of the child. A tuberculous mother may transmit tuberculosis to the child through her milk.

While separating a child from the tuberculous mother, and giving it the best hygienic and sanitary environments elsewhere, would be the ideal way of solving the problem, it is but rarely practicable. We must first find means to protect a child in its own home. To avoid the inhalation of tuberculosis the greatest care should be exercised on the part of parents, relatives or friends with whom the child lives. The well-known precautions concerning the tuberculous expectoration, and also drop infection—that is to say, the ejection of small particles of bacilliferous saliva during the so-called dry cough, loud talking or sneezing—should be rigorously adhered to by everyone who may come in contact with the child. The child should not sleep with a tuberculous mother; it should have its own bed from the day of its birth. The child should never be taken on visits to consumptive friends or relatives.

As a matter of course, if a child should be removed from the parents' home to board elsewhere, one should be sure that there is no consumptive in the new home of the infant, and that it is not

frequented by consumptives. Day nurseries or infants' shelters, where working-women often leave their infants, should be subject to thorough sanitary supervision, and no tuberculous individual should be employed in such an establishment. In choosing a wet nurse or attendant to a child one should always make sure of the absolute health of the individual.

To combat the danger from ingestion of tuberculous cow's milk is, of course, primarily a duty which devolves upon sanitary authorities, the State, county or city boards of health, respectively. It is the duty of these authorities to make the sale of tuberculous milk practicably impossible. But to all mothers who do not nurse their children it should become a religious duty to boil or sterilize the child's milk, particularly in cities where one is never certain of the absolute purity of that article. Whenever it is possible cow's milk should be replaced by goat's milk, which, as is well known, is almost never tuberculous. When the child grows older and eats meat, all that is of doubtful origin should, of course, be thoroughly cooked.

To kiss the child on the mouth should not be allowed in any case, and as the child grows older it should be taught not to kiss strangers at all, and relatives and friends only on the cheek. Caressing and kissing domestic pets, such as parrots, canary birds, dogs, cats, etc., should be discouraged.

Since we have spoken of the possibility of midwives or physicians infecting the new-born child in the attempt to bring its respiratory organs into play, we will also suggest a remedy. To avoid such accidents the mouth-to-mouth respiration should be replaced by the safer method of using the catheter, as recommended by Tarnier and Lusk. Laborde's method of rythmical traction of the tongue will also suffice to cause the child to breathe, if the obstructing mucus has been removed. A simple swab suffices to remove this mucus, and to do this by mouth-to-mouth suction is to be condemned.

The bottle and nipple through which the child receives its milk should be kept scrupulously clean, and the tuberculous mother should never put the nipple into her mouth. Later on, when the infant is old enough to be fed with a spoon, she should again bear in mind that her own saliva is likely to be bacilliferous, and she should avoid using the same spoon for herself and child. The remnants of food left by a tuberculous invalid should not be eaten by anyone, but more particularly not by a child; neither should the latter eat any food handled by a consumptive.

Inoculation of tuberculosis through the orthodox rite of circumcision will be difficult to combat by a simple protest against this operation on the part of physicians. Although it is well known that syphilis and diphtheria have also been transmitted through this suction process, and that through lack of skill in after-treatment, secondary hemorrhage, erysipelas and gangrene having ensued,

orthodox Hebrews will rarely permit any modification in this procedure. I would therefore suggest as a remedy that only such persons should be allowed to perform circumcision as have shown the necessary skill before a medical board of examiners, and that every time they are called upon to perform the rite they should submit themselves to a medical examination. Only when bearing a certificate from a regular physician, stating the absolute freedom from specific diseases, should they be allowed to perform ritual circumcision.

Another reliable prophylactic measure against the possibility of inoculating the child, when the parents insist upon the orthodox method of circumcision, is the suction by the aid of a glass tube, as practiced in France and Germany.

So much for the measures to protect the infant during his earliest age from the possibility of infection in the three ways—inhalation, ingestion, and inoculation. We will now see what can be done in the line of prophylaxis for the child who creeps on the floor, learns to walk, visits kindergartens, plays on public or private playgrounds, visits menageries, and finally goes to school.

The floor of the rooms where the child lives and on which it may play should not be carpeted. It should be kept scrupulously clean, and, if desired, a clean mat may replace the carpet. To keep the ordinary wooden floor clean and as far as possible aseptic, the use of petroleum wax as recommended by R. Petit[11] should be endorsed. Experiments have demonstrated that the various pathogenic microbes, such as the bacillus of diphtheria, of typhoid fever, the streptococci and staphylococci, and the bacterium coli, cannot live in this substance, and the tubercle bacillus loses its virulence when in contact with it. The cracks in the floors should be filled and also covered with this substance. Water, and even antiseptic substances, do not alter this wax.

The ordinary broom should never be used in cleaning children's rooms. If wiping the floor is not practicable, it should be swept with moistened sawdust. All these precautions recommended for the children's rooms in the private home should, of course, be practiced, if possible, even with more rigor in public nurseries, kindergartens, asylums, orphanages, etc.

In view of the possibility of infecting any room by drop infection, it is best that the consumptive, even if ordinarily careful with his expectoration, should sojourn as little as possible in the children's rooms. Of course, it goes without saying that neither spitting nor smoking should be allowed in children's quarters. Expectorating on or near public or private playgrounds should be considered a misdemeanor, and punished accordingly. These grounds should be kept especially clean, and from time to time be strewn with clean gravel.

The greatly-loved visits of little ones to menageries must be of concern to the sanitarian who desires to protect the children from

tuberculosis. To visit the apehouse in the zoological gardens, and to remain there as long as possible, is the delight of children, and yet, perhaps, next to cattle, there are no animals so subject to tuberculosis as apes. Add to this the commotion, dust and impure air in the average apehouse at the usual time of the children's visits, and one cannot help thinking of an absolute danger. The managers of menageries and zoological gardens should do their very best to reduce this source of infection to the least possible minimum. A tuberculous keeper might very easily infect the animals under his care, especially since their confinement makes them particularly susceptible to the invasion of the bacilli. The law which authorizes the killing of tuberculous cattle should be extended to all other animals as well. There seems no reason why an apehouse, containing numerous consumptive animals, should not be as much a source of infection as a tenement-house, where ignorant or careless tuberculous individuals have expectorated indiscriminately. Expectorating on the floor or anywhere else in these menageries should be strictly prohibited to keepers as well as to visitors, and the floor should always be strewn with moistened sawdust during visiting hours.

The hygiene which should prevail in the kindergarten and playroom should, of course, also be universal in the schoolhouse. School-children should be taught the use of spittoons and handkerchiefs. Expectorating anywhere except in a proper receptacle should be punished in the same way as any violation of class rules. The elevated non-breakable spittoon should be given preference to the ordinary porcelain or glass cuspidor placed on the floor. I have often wondered if the individual pocket-flask in the public school would not also tend to decrease epidemics of whooping cough, measles, and grippe, besides being one of the best means of preventing the contraction of tuberculosis through indiscriminate expectoration. Each child should have a cupboard where he should keep his own towel and drinking-cup. To avoid drop infection children should be taught to always hold a handkerchief before the mouth while coughing or sneezing.

Obligatory periodical disinfection of the schoolroom by formaldehyde gas may also be advantageously instituted. To make the disinfecting and cleansing of the classroom as thorough as possible I would suggest that desks and chairs be so constructed that they can easily be folded together after school hours. This innovation in school hygiene was first inaugurated by School Superintendent Akbroit of Odessa, with most satisfactory results. As another sanitary measure, I would insist that lady schoolteachers and the grown-up girl pupils should not, under penalty of discharge, be allowed to wear trailing dresses. The short, rainy-day skirt is, in my humble opinion, most becoming to teachers and pupils, and certainly far more sanitary than the trailing skirt, which so often is made to do the scavenger's dirty work.

The fundamental principles of hygiene, especially in regard to the prevention of tuberculosis, should be made part of the curriculum in every class. I was told by Dr. Roger S. Tracy of the New York Board of Health that there existed in some town out West, the name of which he had forgotten, the custom of inclosing a leaflet for the teaching of hygiene in every book belonging to the school. Now, it seems to me that this is an excellent idea and a good way to teach the fundamental principles of general hygiene, and particularly of the prevention of tuberculosis, and I would strongly recommend this plan to all our boards of education.

Kissing, which is such a prevalent practice in some girls' schools, should be discouraged as unhygienic. While children suffering simply from scrofulous manifestations might be permitted in public schools, pupils suffering from pulmonary tuberculosis, or teachers afflicted with the same disease, should not be allowed there.

The early recognition of pulmonary tuberculosis, which is so essential in the solution of the tuberculosis problem in the adult, is equally important in regard to the combat against this disease in childhood. Here comes a function of the school physician (and no school should be without one) which, I believe, has not yet been sufficiently appreciated nor exercised. The chest of every child attending the public school, and of every teacher employed there, should be carefully examined at least twice or three times a year. Through the early discovery of tuberculosis in a pupil, an immediate warning to the parents, and timely and judicious treatment, many a young life will be saved.

To prevent an inoculation of tuberculosis during the time when the child is likely to play on the floor, mothers and nurses should see that the child's fingers are kept as clean as possible and his nails cut. As long as the child is too small to clean its nose, regular nasal toilets, with some mild borated solution or warm, previously-boiled water, should be instituted. Eczemas and other skin eruptions should receive immediate medical attention; for, as has been said, left to themselves they may give entrance to tuberculous infection.

We come now to the second portion of our discourse, which treats of the hereditary disposition which the child of tuberculous parentage possesses at birth. We may define this hereditary disposition in two ways. As bacteriologists we would probably say a hereditary predisposition is that peculiar condition whereby the various organs, and in particular the respiratory, and, next to it, the intestinal tract, offer a very favorable soil or culture medium for the development and multiplication of the bacilli. As clinicians we might say hereditary predisposition of tuberculosis means a physiological poverty, brought as an inheritance into this world, whereby the system is minus phagocytic and bactericidal powers inherent in strong and healthy organisms.

It is well known that the transmission of a tuberculous tendency comes most frequently from the maternal side. The most

radical means of preventing a progeny subject to tuberculosis would, of course, be the interdiction of marriage to all tuberculous individuals. Our present state of society and our conception of individual liberty will scarcely permit us at this time to inaugurate legislative measures to prevent marriages between tuberculous individuals. General education and enlightenment on this question may be helpful as a prophylactic means, but the family physician will have to do the bulk of the work in preventing such dangerous unions. Even the cured consumptive should not think of marrying until a considerable time after his complete restoration to health. Gerhardt[12] counsels to wait at least one year, but I consider this hardly enough, and would much rather make it two years.

To bring about abortion when a conception has taken place in a tuberculous mother I consider useless. Instead of saving one life, there is the danger of sacrificing two; but in view of our present knowledge of tuberculosis, I have no hesitation to declare that I do not consider it a sin, either before God or man, to instruct a tuberculous mother or father so that they may not procreate a tuberculous issue. If, in spite of the warning of the family physician, a tuberculous mother has conceived, what are we to do? Shall we leave the mother and child to their fate? Surely not. Though the mother may be suffering from tuberculosis, and the child seemingly be doomed to become a candidate for consumption, modern phthisio-therapy has taught us not to despair, and we may save the lives of both; but we must begin by treating the child *in utero*, and with this, of course, begin a thorough treatment of the mother's condition, and continue it at least a year after confinement.

A woman who is to give birth to a child should abandon the corset and tight clothing in time to allow a continued, free abdominal and thoracic respiration. Better yet is it if she has never been addicted to the habit of tight lacing, for the experiments of Kellogg[13] and Mays have demonstrated that the so-called female or costal type of respiration which prevails among civilized women is the result of their restricting and unhygienic mode of dress, and is not due to the influence of gestation or to a natural difference in the anatomy and physiological growth of man and woman. If a support for an unusually large breast must be worn, let the corset be replaced by a comfortable waist which permits free and deep respiratory movements. Instead of tying her skirts around the waist, she should wear them suspended from the shoulders. By wearing a close-fitting union suit for underwear of wool or cotton, according to the season, it will be possible to get along with less skirts, and thus lessen the weight around the waist. In short, the whole dress of the mother should be so arranged that there are no constrictions, and that no organ in the body shall be hindered in its free physiological functions. For the future mother to live as much as possible in pure, fresh air, to take frequent breathing exercises, to avoid crowded assemblies

where the air is vitiated—to live, in short, as hygienic a life as the family's social condition will permit—will have a most salutary effect on the child's health. If the circumstances are such that you can induce this family with a tuberculous mother, living in the city, to move to the country or to a smaller town, where modern hygienic conveniences can be had, but where the crowded and noisy conditions of city life are absent, so much the better for the prospects of mother and child.

The new-born babe is in need of pure, fresh air as much as the mother, and the lying-in room and the nursery should always be well ventilated. When in due time the child is taken for an airing, the thick, almost impermeable veil should be abandoned. These veils, often tightened around the little face, press against the nose and make it difficult for the child to breathe naturally; yet the mother wonders how the baby got into the habit of breathing through the mouth.

Frequently, also, mouth-breathing in children, and sometimes in adults, must be attributed to adenoid vegetation in the nosopharynx, or to enlarged tonsils. These, as well as all other causes of obstruction to a free, natural respiration, such as deviated septum, enlarged turbinated bones, hypertrophied mucous membrane, polypi, etc., must be removed if we desire to protect the child or adult from chronic nasal, pharyngeal, or laryngeal catarrhs, so often the forerunners of pulmonary disease.

The proper bringing up of children that have a tendency to become tuberculous is of the greatest importance. Many are poor eaters from the day of their birth. Discipline, not to allow to many sweets, to observe regular meal-times, and to keep the bowels in good condition, are the best means to combat a dislike for eating. As early as possible children should be taught to clean their teeth thoroughly after each meal, for a good digestion is dependent upon the good state of the teeth. The dislike to play outdoors, which is so characteristic of the little candidates for tuberculous diseases, can also only be overcome by discipline. To dress them too warmly and bundle them up all the time is as injurious as having them remain most of the time indoors. This hardening of the constitution will be the best method to counteract a disposition to take cold easily, which in children predisposed to tuberculosis has often a tendency to develop catarrhs of the deeper respiratory tract.

I consider the air-bath and sun-bath for children at the earliest age most beneficial. Let the little ones toddle around naked every day for a short time; in cold weather in well-warmed rooms, and in summer in a room bathed by the rays of the sun, but always on a clean floor or clean Japanese matting. With their growing intelligence children should be taught by practice and example the value and the love of pure, fresh air. As soon as the age and intelligence of the child will permit, breathing exercises should be taught him. He should learn to like them as the average child does general gymnastics.

The lying-in room, the nurseries and playrooms must always be well ventilated. Public as well as private schools and colleges should be model houses in regard to cleanliness, hygiene and constant ventilation—ventilation not only when the children have left, but all the time—and, as Emmert[14] says, since windows and doors alone do not suffice to properly ventilate rooms when occupied by a mass of human beings, mechanical devices should be resorted to, to secure always a plentiful supply of fresh air. Overwork during school life indirectly fosters a tuberculous tendency in many children, and, indeed, is injurious even to a healthy child. Much outdoor play, singing and reciting in the open air should be encouraged. This life outdoors, the love for pure and fresh air, for gymnastics and outdoor sports, should be kept up by the young man and girl leaving school throughout life.

In choosing his future career the young man born with that peculiar susceptibility which Peter describes so aptly as "*tuberculisable*" should seek professions which will demand outdoor life. Farming, gardening and forestry will assure him the longest and most useful existence.

Hydro-therapeutics, as a measure to prevent pulmonary tuberculosis, tends to develop to more vigorous action the vasomotor system. It also should be instituted at an early age. A child a few months old can support with impunity a rapid sponging off with cold water after its warm bath, followed by a relatively vigorous friction with a soft Turkish towel. As the child grows older he should not only be taught this use of cold water after his semi-weekly or weekly warm bath, but he should wash at least the face, neck and chest every morning with cold water. Better yet if he can accustom himself early to a daily cold douche. The utility of all-the-year-round swimming baths, where old and young of all classes can, gratuitously or for a moderate price, enjoy the salutary effects on body and mind of a good swim, is too well known to need to be insisted on.

There should be many small parks and playgrounds and public baths for old and young in the densely-crowded districts of our large cities. City parks have justly been called the lungs of great centers of population. Here mothers and children of the poor can breathe purer and fresher air, which is one of the best means of preventing tuberculosis.

I have thus far but slightly touched on the sociological side of prophylaxis. I have not made much distinction between scrofulous and tuberculous diseases, for the former is but a lighter form of tuberculosis. The same sociological conditions which further tuberculosis in the pulmonary form further also scrofulous diseases. Children from syphilitic and alcoholic parents are particularly prone to tuberculous and scrofulous affections. In seeking to prevent tuberculous and scrofulous disease in childhood we must combat our two great social evils—syphilis and alcoholism.

Here I cannot help also denouncing strongly the employment of children under fourteen years of age in various industries requiring often six to ten hours of continued manual labor, and often in factories and mines where work taxes even the healthy organs of a full-grown man.

Of the frequency of scrofulous and tuberculous troubles among children of the poor one has scarcely an idea. In one of the public schools of Berlin, where careful statistics are kept concerning the daily attendance of the children, it was found that out of 125 boys and 132 girls who did not attend school regularly, not less than 112 of the former and 115 of the latter suffered from tuberculous or scrofulous troubles. As to what best to do for the underfed pupils, the children of poor parents, visiting our public schools, I would suggest a philanthropic enterprise which would cost little and which would do a world of good. Provide them with a lunch of a few good, neat sandwitches and one or two glasses of good milk, and I am convinced that fewer will develop tuberculosis and scrofulosis, and they will do better work at school and at home. A similar experiment has been tried recently in one of the German schools for the poor, and the results have been most gratifying. Nearly every one of the children gained in weight and strength in a relatively short time.

For children suffering from either tuberculous or scrofulous manifestations the treatment is well known. Codliver oil, arsenic, iron, but, above all, the hygienic and dietetic measures, aero-, hydro- and solar-therapy, under constant medical supervision in a good, healthy locality, preferably in sanatoria erected for that purpose in the country or on the seashore, have proven to be the most efficacious means to treat these diseases during childhood. With so many beautiful places as we have in our inland and seacoast towns, which would be suitable for children's sanatoria, it is to be regretted that we have in America almost no such institutions as yet. In France, Germany, Holland and Italy there exist numerous children's sanatoria for the treatment of tuberculous and scrofulous diseases. To these are attached splendid schools, so that the intellectual side of the children's training is not neglected. The results obtained in these institutions for the little sufferers are even better than those for adults, the latest reports giving as much as 50 to 75 per cent. of complete cures.

Under medical news from Colorado I read in last week's *Journal of the American Medical Association* (May 18) that by order of State Health Commissioner Clough, promulgated April 15, sufferers from tuberculosis are excluded from public schools. This means, of course, exclusion of tuberculous pupils and teachers alike. But, I ask, has the State of Colorado provided another place of instruction for these little ones? Is it just to exclude a child from public school for so long a time as the cure of such a chronic disease as tuberculosis must of necessity require? The action of any health authority in suppressing tuberculosis in pub-

lic schools should be commended, but before enforcing the regulations which deprive the child of the right and privilege of education those authorities should see that specially-constructed sanatoria-schools should be erected where these little ones receive not only the benefit of judicious medical treatment and practical hygienic training, but also that school education to which every American child is entitled.

There is a strong awakening now to the need of sanatoria for consumptive adults throughout the United States. Let us, in our eagerness to treat the consumptive man and woman, not forget that to treat the tuberculous and scrofulous children is just as important. These special children's sanatoria, situated on the seacoast or inland in particularly healthy localities, are powerful agents in the prevention and cure of tuberculosis. By carrying out the prophylactic measures which I have endeavored to outline in the first portion of my lecture, and by providing institutions for children already afflicted with tuberculous or scrofulous diseases, we will prevent many a one from becoming a consumptive man or woman. Through prevention and timely cure these little ones have many chances to become strong, healthy and useful members of the community. Let us take good care of the little children, and never forget that the child of today will be the man of tomorrow.

BIBLIOGRAPHY.

[1]Lartigau: "Congenital Tuberculosis," Twentieth Century Practice of Medicine, Vol. XX.

[2]Cornet: "Die Tuberkulose," Berlin, 1899.

[3]Straus: "La tuberculose et son bacille," Paris, 1895.

[4]Zeitschrift f. klin. Medicin, Bd. VIII, 1884.

[5]Annales des med. exp., Vol. I, 1889.

[6]D'Espine: Annales de med. et de chir. infantile, Sept. 1, 1900.

[7]"Zur Verhütung der Tuberkulose im Kindesalter," Congress of Tuberculosis, Berlin, 1899.

[8]Küss: "De l'Hérédité parasitaire de la tuberculose humaine," Paris, 1898.

[9]Latham: "Pulmonary Tuberculosis in Early Childhood," Lancet, Dec. 22, 1900.

[10]Knopf: "Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at Home," P. Blakiston's Son & Co., Philadelphia, 1899.

[11]Petit: "Recherches sur un procédé simple pour aseptiser les planchers Congrès de la Tuberculose," 1898.

[12]Gerhardt: "Ueber Eheschliessungen Tuberkulöser," Zeitschr. f. Tuberkulos. u. Heilstättenwesen, Sept., 1900.

[13]Kellogg: "Experimental Researches Respecting the Relation of Dress to Pelvic Diseases of Women," Transactions of the Michigan State Medical Society, 1888.

[14]Emmert: "Is Our Public School System Conducive to Tuberculosis?" Transactions of the Iowa State Medical Society, 1898.

REGISTRATION OF TUBERCULOSIS.

By Lawrence Flick, M.D.,
Philadelphia.

READ BEFORE THE CLINICAL SOCIETY OF MARYLAND, APRIL 19, 1901.

REGISTRATION of tuberculosis has been much discussed in recent years, and all sides of the question probably have been brought out at one time or another. A summary of the points agreed upon and a review of points of disagreement therefore seems to be the most profitable method of considering the subject now.

As accepted by the medical world may be set down:

1st. That tuberculosis is a communicable disease.

2d. That, being a communicable disease, it is, theoretically at least, a preventable one.

3d. That if it is a preventable disease, it ought to be prevented.

4th. That for its prevention such measures as are necessary are legitimate and proper.

5th. That prevention of disease is a governmental function.

6th. That the arm of the government to which, in this country, prevention of disease is usually entrusted is known as a board of health.

Mooted points are:

1st. The contagiousness of tuberculosis.

2d. The importance of communicability as a factor in the etiology of the disease.

3d. The practicability of prevention.

4th. Registration as an essential factor in a scheme of prevention.

5th. The expediency of entrusting boards of health with the prevention of tuberculosis.

1st. As to the contagiousness of tuberculosis. Opposition comes from friends and enemies of the germ theory of disease. Men who cling to traditions and men who accept new ideas without understanding them quite naturally refuse assent to the contagious theory of tuberculosis. In the ranks of such are to be found those who take the illogical position that tuberculosis may be contagious sometimes, but, as a rule, is hereditary, or comes from a cold, or from grief, or from want and hardship, or possibly even from some other disease, such as typhoid fever or syphilis. Such men are entitled to forbearance. They bring up the rear guard of the profession, and will remain in the procession as stragglers if not as soldiers. From adherents of the germ theory of disease, however, men who fully understand what it means, we may expect consistency and a logical attitude. Some of these injure the cause of preventive medicine by trying to conciliate

opposition. They will not call tuberculosis contagious, because the word contagious sounds harsh and long has been in bad company, but they are willing to inaugurate measures for the prevention of tuberculosis which can only have justification in the contagiousness of the disease.

Communicable diseases, from time immemorial, have been classed as contagious and infectious. The ancients recognized a distinction without knowing the reason; the moderns have discovered the reason. A contagious disease is one in which the offending matter passes from one host to another without going through an intermediary host or culture medium; an infectious disease is one in which the offending matter goes from one host to another through an intermediary host or culture medium.

In tuberculosis the offending matter does not pass through an intermediary host or culture medium, but directly from one host to another. Contact, direct or indirect, is an essential factor in the transmission, and in practical life is the most potent factor. Family relationship, association in business and occupation, and occupancy of quarters which had been previously occupied by a tubercular subject, constitute the mode of transmission of at least 75 per cent. of all new cases of the disease. This has been demonstrated by myself and others in a topographical study of all cases which have ended in death within a given district in a given time. It is also indicated in a broad way by the recurrence of the same number of cases year in and year out, except in so far as this is interfered with by the laws of immunity and by preventive measures. For every old case a new one springs up, and practically but one, thus showing that the conditions under which implantation can take place must be limited and circumscribed. What this limitation and circumscription means has been pretty well defined by clinical observation and laboratory work. It means that the tubercular subject is the center from which contagion radiates, and that the potency of communicability is in proportion to proximity to that center. The more intimate the contact between an actual host and a prospective host the more likely is an implantation to take place. Surely, a disease which so much depends upon contact for propagation may be termed a contagious disease.

But there is still another reason why tuberculosis should be recognized as a contagious disease, and should be termed such. In contagious diseases preventive measures have to do with the host and prospective host only; in infectious diseases preventive measures have to do with the host, the intermediary host or culture medium, and the prospective host. Prevention of a contagious disease is impossible without registration, because the host, who is the center of distribution, must be the basis of operation. Prevention of infectious diseases may be accomplished without registration, because the intermediary host or culture medium can be made the base of operation. Upon the

proper classification of tuberculosis, therefore, must depend the efficiency of preventive measures which may be introduced.

Objection is made to classifying tuberculosis with smallpox and scarlet fever. But why should not these diseases be put in the same class? The mode of transmission is identical. Contact, direct or indirect, is the essential factor in all. The difference is only one of rapidity. With smallpox and scarlet fever the potency of contagion reaches its point of efficiency in an instant; with tuberculosis it may not become effective for weeks, months or years. With all three, however, the thing to be avoided is the same, and in practical life the danger is the greatest with tuberculosis, because opportunities for new implantation are most frequent, and the disease is least repellent through fear. Rated by victims, and measured by results over a long period of time, the contagion of tuberculosis is as potent as that of smallpox and scarlet fever.

2d. As to the importance of communicability as an etiological factor in the disease. Many who admit the communicability of tuberculosis relegate it to a secondary position. It is not so much the tubercle bacillus, they say, as sociological factors which make for tuberculosis. Ease up the burdens of the poor, take off the strain from the backs of the working-people, make wider streets, stop dissipation among parents, prevent marriage of the degenerate and sickly, and you will not have to bother about the tubercle bacillus. Sociological factors undoubtedly play an important part in the spread of tuberculosis, but without the tubercle bacillus they cannot produce the disease. On the other hand, the tubercle bacillus can produce tuberculosis without the sociological factors. If tuberculosis is a communicable disease, then it is so because it is due to a living entity, and if it is due to a living entity, then all other etiological factors can only be incidental to the life history of the organism which sets up the disease. There is no soil so rich, no dungeon so gloomy and dark, no burden of life so great, and no sorrow so deep as to be able to breed tuberculosis without the tubercle bacillus, and there is no palace upon earth where the disease will not develop if the tubercle bacillus is plentiful enough. Besides, we cannot remedy the sociological factors, and we can destroy the tubercle bacillus.

3d. As to the practicability of prevention. Many who believe in the communicability of tuberculosis do not believe that the disease can be stamped out or even much curtailed. Why establish preventive measures for a disease which is practically universal, which has existed in all times, and to which everybody is exposed, especially when such measures interfere with private rights and personal liberty? There will be no results except unhappiness and disaster. The tubercle bacillus is given off by the millions from thousands upon thousands of diseased lungs; it exists everywhere, and everybody inhales it; the disease which it sets up lasts for years, and its victims cannot be restrained;

preventive measures must therefore prove useless. They who hold such views do not understand the contagion of tuberculosis, and know nothing about the life history of the tubercle bacillus. Of all diseases known at the present time tuberculosis can be most readily brought under control. This is so because the contagion of tuberculosis is given off usually through a single channel and in a form which can be seen and handled, and because the tubercle bacillus, after having been given off, cannot reproduce itself until it enters a new host, and in a very brief time succumbs to the germicidal powers of sunlight, air and moisture. The living tubercle bacillus, therefore, does not exist everywhere, and everybody does not inhale it; in fact, comparatively few inhale it in sufficient quantity to produce an implantation. Mere casual contact with a tubercular subject will not produce an implantation. The possibility of contracting tuberculosis by inhaling tubercle bacilli on the streets, in churches and public places, in public conveyances, and in cars and steamboats exists theoretically, but does not amount to anything practically. The number of bacilli which can be inhaled in such places under ordinary circumstances will rarely, if ever, produce an implantation. Intimate prolonged contact with a tubercular subject or continuous prolonged occupation of quarters which have been occupied by a tubercular subject are ordinarily necessary for a successful implantation of a tubercular colony in a new host. Preventive measures, therefore, need only to be applied to the host and his environment. Sterilization of the contagium, or matter given off, immediately upon being given off makes a tubercular subject innocuous, and prevents a new implantation from that source. Every prevention reaches far into the future, because not only is that one case prevented, but all that might have grown out of it. This explains the wonderful results which have followed preventive measures wherever they have been introduced. In the Kingdom of Naples, for example, crude though stringent measures for the prevention of tuberculosis reduced the disease from a virulent pandemic to almost complete extinction in less than half a century. In England the establishment of consumption hospitals for the consumptive poor reduced the death-rate from the disease 50 per cent. in forty years. In the city of Philadelphia education of the people through the newspapers and by circulating tracts and the removal of some of the consumptive poor into hospitals has brought about a reduction in the death-rate from the disease of 33 per cent. in sixteen years. The prevention of tuberculosis is not only practicable, but is easy. It is simply a question of finding out where every case of tuberculosis is and of making it innocuous, and, when there is doubt about the tubercular subject having been kept innocuous, of sterilizing the quarters which he has occupied when he vacates them by death or removal. The first step necessary for this is registration. How the rest is to be done every community will have to settle for

itself. The most economical way will probably be the establishment of sanatoria in country districts for the treatment of incipient cases, and consumption hospitals in cities for the care and treatment of advanced cases.

4th. Registration as an essential factor in a scheme for the prevention of tuberculosis. One of the most frequent objections, and possibly the most plausible one, made against registration of tuberculosis is that it is unnecessary. All that can be accomplished with registration can be accomplished without it. The physician, who holds a confidential relationship to the patient, is competent to inaugurate and superintend efficient preventive measures without publicity, and therefore interference on the part of the government is unnecessary. The fallacy of this proposition is best shown when we test it among the poor. The poor consumptive usually does not have a physician during that stage of his disease when contagion is most intense. He often moves from one house to another, because he is put out for nonpayment of rent, and thus he contaminates three or four houses during his illness. Now, we all know that tuberculosis is largely a disease of the poor. Not only does the prevalence of the disease keep pace with the descent in the scale of society, but the relative danger of spreading the disease is likewise in *crescendo* with that descent. And yet the freedom from danger to a community from disease must be measured at the lowest rung of society, and not at the highest. But even if every tubercular subject in the land had a competent physician in constant attendance during his entire illness efficient preventive measures would not be inaugurated and carried out. The average attending physician contents himself with telling his tubercular patient to be careful about spitting. If he goes into details at all, he tells him to spit into rags, and to burn the rags. Such advice will not prevent new implantations in a household where members of the family have been depressed by long vigils, by grief, and by want, as is so often the case in families in which tuberculosis prevails. To keep a tubercular subject sterile it is necessary that every particle of sputa be sterilized immediately upon being given off, and that none be deposited where it can dry and become pulverized. Spitting into rags is a dangerous practice, because the patient soils his hands, and because the sputum in the rags soon loses its moisture, and is then deposited on the patient's clothing and on the bed linen. The inauguration and establishment of efficient preventive measures in the home of a consumptive require technical knowledge and patient effort, which few physicians are able and willing to give, and for the giving of which no physician is ever compensated. Until prevention of disease is recognized as something worth paying for by the public it is too much to expect of human nature to ask the physician to take upon his shoulders the burden of stamping out

tuberculosis without compensation, especially when by so doing he is taking up the time which he needs for earning a living.

5th. The expediency of entrusting boards of health with the prevention of tuberculosis. The most singular argument which has been made against registration of tuberculosis is that boards of health cannot safely be entrusted with preventive measures against the disease. We all know that boards of health are not always constituted as they should be, but they are the only legally constituted arm of the government which has to do with public health. It is either they or nothing. Besides, they have already been entrusted with greater and more arbitrary powers than are involved in the prevention of tuberculosis. If they are not what they should be, the remedy is in reform, and not in stopping the prevention of disease.

In addition to the opposition to the registration of tuberculosis which comes from the discord in the profession growing out of mooted questions, there is an opposition based upon fancy and sentiment. We object to regisration, say some, because it puts a brand upon the afflicted and increases their burdens, which are already too heavy. Such a cry as this is apt to meet with sympathy among the thoughtless. But is it based upon truth? Does registration in any way work to the disadvantage of those who have tuberculosis? Let us see. The physician communicates the fact that a person has tuberculosis to the Board of Health; a record is made of the case; a printed document explaining what to do to prevent the spread of the disease is sent to the patient; perhaps a visit is paid the patient by a representative of the Board of Health to explain the document, and, if need be, give material aid for prevention; possibly opportunity is furnished the patient to enter a sanatorium or hospital; watch is kept upon the house, so that if vacated by death or removal it may be sterilized before it again can be occupied. All of this is done quietly and without publicity. The records of the board are confidential and are a closed book to the public. Now, wherein consists the brand, and the injury, and the increased burden? After death the tubercular subject is recorded as having died of tuberculosis. Why not have the record made during life, when some compensation for the injury may come to himself and his family through it?

Another objection to registration, which is based purely upon fancy and sentiment, is that it would put a blight upon sensitive tubercular subjects and hasten their deaths by informing them that they have tuberculosis. A large experience with tubercular subjects has not brought to my notice one instance where injury has come to a patient from knowledge of the nature of his ailment. On the contrary, the benefit which has invariably accrued to the patient from such knowledge has gradually forced me to the conclusion that not to inform a tubercular subject that he has

tuberculosis, and failure to explain to him the nature of his ailment, are but little short of crime. In a fight for life against this disease thorough knowledge of the disease and all that it means is one-half the battle. As to blighting the life of the victim by such knowledge, we all know what a hopeful being the consumptive is, and how he can extract hope and comfort and happiness from the very shadow of death.

To sum up: Tuberculosis is a contagious disease; it is a preventable disease; the center from which contagion spreads is the host; this center is limited and circumscribed; prevention of the disease is not only practicable, but easy; the keynote to prevention is control of the host; the whereabouts of the host can only be known through registration; opposition to registration is based upon false notions, fancy and sentiment; for a comprehensive scheme of prevention governmental interference is necessary; under existing circumstances governmental interference can only take place through boards of health.

DISTRIBUTION OF TUBERCULOSIS IN THE CITY OF BALTIMORE.

By C. Hampson Jones, M.D.,

Assistant Commissioner of Health, Baltimore City.

READ BEFORE THE CLINICAL SOCIETY OF MARYLAND, APRIL 19, 1901.

IN the laws governing the reporting of infectious diseases it is required to report tuberculosis. The objection to this on the part of the physicians and the laity, in my opinion, is becoming less and less every year. The opening of the municipal laboratory to assist the physician in making diagnoses of diseases has greatly increased our information of the distribution of the disease, and the knowledge that we do not notify the one who is sick or his immediate family as to the findings of our bacteriologist has increased the desire of the medical profession to use the means afforded them by the city. Yet this information is by no means complete, because the whole number of cases known through such means is less than the number of deaths reported as due to tuberculosis. So, in trying to give you some idea as to the distribution of the cases of tuberculosis, I must present to you a map showing the deaths from tuberculosis of the lungs and larynx. This does not include somewhat over 100 deaths due to tuberculosis involving other organs of the body, such as the peritoneum and the meninges of the brain and cord.

I have prepared the two maps—one of deaths, and the other of reported cases of tuberculosis—and find that the cases cover about the same territory as shown in this map of deaths, with this difference, perhaps, that the deaths are reported from residents of alleys, while cases are reported from residents in streets. I presume this to be due to the fact that the many cases that exist in our alleyways are already so far advanced when the physicians are called to them that it is scarcely necessary to make a bacteriological examination to determine the diagnosis.

We find that the total number of deaths due to tuberculosis of the lungs and larynx during the year 1900 was 1154. Of this number, 782 were whites, 371 colored, and 1 Mongolian. We find this to show that the percentage of deaths due to this disease among the whites, as compared with the total number of deaths of whites from all causes, to be 9.66 per cent., and of the colored 14.23 per cent. This map that I show you presents a marked contrast in the localities of deaths due to tuberculosis to the map showing the locality of the cases due to scarlet fever and diphtheria infection. The latter two are found exceptionally in the alleys, while tuberculosis is quite extensive in the same region.

It will take many years of observation to determine, as far as Baltimore is concerned, the effect of certain conditions determining the likelihood of tuberculosis developing and proving fatal, but for statistical purposes I have this year given a summary of the previous occupations of the decedents. This is necessarily very incomplete, but I have given it for the purpose of showing to physicians the desirability of obtaining accurate information on this subject. You will find that in 326 deaths no occupation is given. I think that this is frequently due to the fact that the physician who gave the death certificate found that his patient had been out of work of any kind for quite a while, and did not think it necessary to give his occupation previous to the development of tuberculosis. But of those that were reported during the year 1900 I find that 192 were engaged in household work, 114 general laboring work, clerks 63, servants 63, merchants 23, saloonkeepers 17, waiters 16, drivers 16, scholars 16, tailors 15, sailors 14, painters 13, laundresses 12, carpenters 10, school teachers 9, seamstresses 9, printers 7, engineers 7, hucksters 7, hostlers 6, porters 6, carriers 6, shoemakers 6, students 6, cabinetmakers 6, harnessmakers 5, bricklayers 5, bakers 5, tinners 5, conductors 4, shirt operators 4, molders 4, machinists 4, coopers 4, recluse 4, mill hands 3, watchmen 3, cloth cutters 3, policemen 3, barbers 3, etc.

I desire to call your attention to a few of these that would probably have some influence in directing the methods of the Health Department and assist in stamping out this disease.

First of all, the clerks, of which we have sixty-three reported. I have taken occasion to examine into the conditions under which certain sets of clerks were required to work. I have found that in many instances the air space afforded to each one was very small, that the ventilation was abominable, and that the heating of the room was imperfect—either not enough or too much. I found also that in many instances there were present clerks who were then suffering from tuberculosis and expectorating pus.

Another item deserving attention, I think, is the servants, among whom sixty-three deaths were reported. You can see that this is somewhat closely associated with the item of housewife, under which head 192 deaths were reported. You can readily see a possibility of communication of one to the other, either directly or indirectly, and especially to the younger members of the family; and closely associated with these two are the laundresses and waiters, among whom twelve and sixteen deaths, respectively, are reported. Of particular interest are the deaths of nine school teachers and sixteen scholars; and in connection with this I would call your attention to the 144 deaths between the ages of five and twenty years, most of whom had no occupation given, and therefore were probably school children. This would certainly argue very strongly for a special effort to be made to see that our school buildings are properly ventilated, and that an abundance of air space be given to each scholar. I call especial attention to this, because the Health Department has on several occasions in its annual report spoken of the unsanitary condition of our schoolhouses.

Finally, in looking over the map carefully, one will find that a large number of deaths occur in those portions of the city where narrow streets and alleys exist, where unsanitary conditions of the soil prevail, and where the houses are overcrowded. I cannot but feel that the work of the Health Department in the future must be directed especially along this course, indicated by the items cited above; that we are to warn the public as to the communicability of the disease of employer to employe, and *vice versa*, from teacher to scholar, from scholar to scholar; that we are to have laws passed that will protect the clerk in his counting-room and the laborer at his trade, and, finally, to bring about a better condition of the houses and soil by the establishment of a proper drainage system.

We are now investigating the milk supply of Baltimore in an effort to determine how much tuberculosis is spread by the consumption of milk. At present we can say but little, but we suspect that a great deal of tuberculosis is thus produced, as evidenced by the reports of other towns where the disease has been directly traced to the milk supply.

CARE OF THE INDIGENT TUBERCULOUS.

By H. Warren Buckler, M.D.,
Baltimore.

READ BEFORE THE CLINICAL SOCIETY OF MARYLAND, APRIL 19, 1901.

To DISCOVER the best practical method of dealing with and caring for the indigent tuberculous of our city is a problem which is daily growing in magnitude and importance, and which urgently calls for solution at the hands of our sanitary authorities on the grounds of humanity, economy and public safety. The thousands of poor suffering from this disease who are either too ill, too ignorant or too indifferent to properly dispose of their sputum, and so render themselves no longer sources of contagion, have become a constant and serious menace to the public health and general hygiene of the community. The city has seen fit to provide suitable institutions for the poor suffering from other diseases. City hospitals open their doors to offer free treatment to patients stricken with typhoid fever, pneumonia and sundry kindred diseases. City asylums furnish comfortable quarters for the aged, weak and feeble-minded poor, for epileptics, and even for alcoholic and syphilitic degenerates, few of whom are more dangerous than the consumptive, and many of whom are far less amenable to treatment. But for the multitude of unfortunates suffering from phthisis practically no provisions have thus far been made. With the exception of a small hospital offering accommodations for about thirty-five patients, supported by private contributions, and a few beds in the Hebrew Hospital and St. Agnes' Sanitarium, there is no place at present where we can send an incipient case to be properly treated and given a chance to recover.

The city annually expends over $20,000 towards the suppression of the various contagious and infectious diseases, 10,000 or more persons are annually vaccinated, and double this number inspected, with the result that smallpox seldom occurs, and then only in sporadic form. The pupils of the public schools have their throats examined, cultures are made, and antitoxin is administered, when necessary, by an inspector whose sole duty is to prevent epidemic outbreaks of diphtheria. Scarlet fever and measles are rigidly quarantined, and the sick room is fumigated by the municipal authorities before being reoccupied. Plans have been made for an extensive filtration plant, with the hope of getting a better and purer water supply, and thus reducing our typhoid mortality. Does it not, then, seem incredible that not one cent is expended, not one provision made, not one law enacted towards the control or suppression of the disease which yearly is the cause of one-tenth of our total mortality and numbers among its victims today 10,000 or more of our citizens?

Although there are still many gaps in our knowledge concerning scarlet fever and smallpox, the danger of the contagion is so well recognized by the profession and so feared by the public that every precaution is taken by both to minimize the risk. Not so, however, with tuberculosis. Few diseases are so well understood by the medical profession. For the past eighteen years its etiology has been known, its mode of dissemination studied, its communicability proven, so that its prevention is now shown to be largely dependent upon the observation of the simplest laws of hygiene. But apparently the knowledge which we have gained, instead of tending to alleviate the sufferings of the poor consumptives, only seems to have brought them additional hardships. Every good hospital now closes its doors against them, and although they may be quite as worthy and, in some instances, quite as curable as their neighbors with other diseases, owing to this very knowledge which we have of their disease, they are refused the care and treatment so urgently needed and so freely bestowed upon others. Left alone, reduced to pauperism, these poor victims either go to further congest the already overcrowded almshouses or die in their own homes from sheer want and neglect, forming, until the day they breathe their last, additional foci for the spread of the dreaded disease.

We may well ask, How does it happen that the public, usually so ready and prompt in the alleviation of other suffering, should be so callous and indifferent towards the consumptive? The answer may be summed up in one word—"ignorance." The idea still held by the majority of people, that consumption is an inherited disease, that it is incurable, and that a speedy fatal ending is inevitable, has been productive of incalculable harm. Ignorance of the communicability of the disease, ignorance of the danger from sputum, and ignorance of the value of fresh air, sunshine and light are in a large part responsible for this appalling apathy. Under these circumstances it is the bounden duty of the medical profession, as individuals and as a body, while doing their utmost towards the education and enlightenment of the intelligent, to feel that they are largely responsible for the care and protection of the ignorant, helpless consumptive, who, through our knowledge, has been shut out of the hospitals, and whom we recognize as the main source of danger to the community.

How to accomplish this has been occupying the attention of individual philanthropists, municipal health officers, State legislatures, and even the rulers of kingdoms and empires. There is scarcely a State in the country today which has not considered this question and adopted regulations for the control of the disease, some depending merely upon voluntary efforts, while others have involved drastic legislation. We in Baltimore, having as yet done nothing, have the chance of profiting by the experience of others, so that we can eventually adopt only such measures as have proven successful elsewhere after thorough trial.

The prevailing opinion of those interested in this work seems to be that the first thing necessary is a knowledge of the location of the homes of the consumptives, in order that our efforts may be more especially directed to those portions of the city in which tuberculosis is most prevalent. It has been estimated that there are in Baltimore today 10,000 consumptives, of whom 7000 or more are too poor to be able to take decent care of themselves. Of the location of these we are practically ignorant. The only way we have at present of gaining such information is through a study of the mortality records, a method which is obviously unreliable. We have already heard this evening an excellent paper upon registration and notification, which, while apparently satisfactory where it is in force, requires (1) the approval of the public, which can only be obtained by slow degrees, and (2) the action of the legislature—a body hard to move. The method which we have adopted at the Johns Hopkins Dispensary seems fairly satisfactory under the existing circumstances. Here every case of pulmonary tuberculosis is referred to Dr. Brülle, who registers the names and addresses in a ledger kept especially for this purpose. We are now engaged in plotting these cases on a map of the city kindly given me by Dr. Jones, and by the end of the year we shall be able to determine not only the exact number, but also the location of every case of phthisis treated by us. Judging from the number of cases we see, I should say that fully 5000 of the 7000 above referred to are under the care of the physicians of the various city dispensaries. With very little trouble similar methods could be adopted in every dispensary, with the result that in a very short time we should be able to furnish the health authorities with data which would prove invaluable not only from a statistical standpoint, but also as a working basis for those who are interested in this work.

Besides registering our cases, we are enabled, through the generosity of one of Dr. Osler's friends, to appoint several student inspectors to visit the people in their own homes, to furnish them with printed leaflets containing simple instructions necessary to prevent the spread of the disease, and to see that their instructions are carried out. Thus far, with few exceptions, these efforts have seemed to be appreciated, and I trust the future will show that they have been efficacious. To those dispensaries which are not fortunate enough to have a tuberculosis fund printed pamphlets should be furnished at the cost of the city.

I am sure it will only be a question of time before the health officers will be able to prevail upon the authorities to make appropriations for the appointment of several inspectors, whose sole duty shall be to visit the tuberculous poor. With the exercise of a little tact and proper regard for the feelings of the family an immense deal of good can be accomplished by such visits, as has been shown in the very interesting article of Miss Dutcher, giving her report of her first 200 cases.

But while the first step towards the prevention of the disease deals essentially with prophylaxis, and is dependent upon the education and enlightenment of the masses, the second, and far more important one, is essentially economic and therapeutic, involving the expenditure of sums of money for the erection of public sanatoria for the isolation and treatment of those already afflicted. While the actual establishment of such institutions in this State may at present seem to many to be features of the dim future, it, nevertheless, will be only a question of time before Maryland will be forced to accede to the demands of her people and follow the example of her more progressive and more humane neighbors. One can scarcely pick up a journal today without seeing that some State legislature has made appropriations for sanatoria for the care of her indigent consumptives. Massachusetts has already, in the Rutland Sanatorium, an ideal resort. New York will soon have similar institutions provided for by liberal appropriations recently made, and the legislatures of Pennsylvania, Mississippi, Ohio, Wisconsin, Connecticut, and even distant Texas, have bills before them asking for sums for this purpose.

Most significant data, dealing with economic importance of such sanatoria, are offered by the condition of affairs today existing in Germany. In 1899 an act was passed making insurance against sickness and old age obligatory on all whose annual income was under $500. Over 1,100,000 persons were insured within two years, and it was soon found that nearly 50 per cent. of the applications for sick pay were for the relief of persons suffering from pulmonary tuberculosis. Within a year thirty-five of the thirty-seven insurance companies had spent part of their funds in the erection of sanatoria, and it was found that if 140 out of every 500 could be restored sufficiently to do without sick pay for a year, this would recoup the company for the cost of treatment in a sanitarium. These facts certainly prove that even when public interest fails to be excited by the publication of death statistics or the appeals of physicians and philanthropists, it is invariably aroused by the question of dollars and dividends.

It is difficult to estimate the cost to the city, directly or indirectly, due to tuberculosis. City hospitals as far as possible decline to receive cases, but city institutions, as the jail and Bayview, always shelter a greater or less number of sufferers from this disease. Dr. George Wilkins tells me that he treated in the jail during the past year eighty-one cases of phthisis, and out of eleven deaths five were due to consumption. Dr. Kierle, the resident physician of Bayview, informs me that until 1900 there were 149 cases treated in the almshouse hospital, with sixty-eight deaths. I have no doubt that a large proportion of these cases were reduced to pauperism through ill-health. Each individual is an extra expense to the city, to say nothing of the numerous families left destitute and dependent upon public charity for support. Tuberculosis usually selects for its victims

individuals between the ages of fifteen and sixty. Thus it would often happen that the breadwinner of the family, if taken in time from his unhygienic surroundings and afforded proper treatment in a sanatorium, might be restored to health, and thus prevent his family from becoming a public charge.

Before closing let me briefly refer to the third essential in the prevention of the disease, no less important than the two preceding, but applicable only after both have become unnecessary—after the death of the patient. By this I mean a thorough disinfection of the apartments, clothing, bedding, etc., of the consumptive under the supervision of the municipal health officer, just as is carried out at present after a death from scarlet fever. There might at first be objections on the part of the family, but as soon as they realize that they are the ones benefited I am confident that there will be little trouble in inducing them to submit to measures which are of vital importance to themselves as well as to the public at large. For one who has not made a somewhat close study of this question, the fact that tuberculosis is largely a disease of house infection may not be apparent, but the more I go into this matter the more deeply am I impressed with the importance of this etiological factor. If time allowed I could recite a dozen cases or more where occupants have moved out of a house after a death from tuberculosis, and the subsequent tenants, ignorant of their danger, have contracted the disease. I have in mind at present a certain home on East Preston street, where four members of a hitherto healthy family contracted tuberculosis, the first one dying within a year after moving into these infected quarters. Surely those interested in fighting the disease have enough to contend with in the living foci of infection to be able to feel that after a man is dead and in his grave his former surroundings, contaminated by his dried sputum, should no longer be a source of danger to his family and friends.

In this short paper I have attempted to draw your attention only in a very general way to certain of the more important features concerning the duty and interest of the public with regard to tuberculosis. The complexity of the problems with which we have to deal, and the enormous efforts that must be exerted to bring about any tangible results, have, I fear, in the past made some of us feel that it was an utterly hopeless task to attempt in any way to combat or control the ravages of this disease, today the greatest scourge of the human race. But a beginning must be made in everything, and the very magnitude of the task should rather prove an incentive to vigorous and constant work. Cooperation is absolutely necessary. Private philanthropy has done something, but can accomplish relatively little without the actual assistance of the public health officers and the financial aid of the city and State treasuries. For him who thinks that he is without responsibility in this matter let me quote the words of Dr. E. R. Baldwin of the Adirondack Sanatorium: "Just contract the disease, and then fight for your life without friends or money."

Current Literature.

PATHOLOGY AND BACTERIOLOGY.

By José L. Hirsh, M.D., Baltimore.

The Bacteriologic Examination of Clinical Thermometers. R. C. Rosenberger. *American Medicine*, June 22, 1901.

The author made a very interesting, even if not conclusive, series of bacteriological examinations of clinical thermometers for the purpose of determining the probabilities of infection by means of a thermometer. The method used was (1) to obtain the diagnosis of the case in which the thermometer was last used, (2) the time that had elapsed since the instrument was last used, (3) how the thermometer was cleansed after using.

The tabulated results show that with thermometers which have been washed and dried off in the customary way the number of colonies obtained on agar vary from three to forty-six. If, however, the thermometer was first washed in water, then immersed in corrosive sublimate for two minutes and allowed to dry in the air, the agar cultures remained sterile. The organisms obtained in the first series of experiments include the staphylococci, sarcina, bacillus subtilis, bacillus coli communis, and yeast fungi.

Rosenberger concludes that—

1. It is possible for the thermometer to be laden with the usual flora of the oral cavity.
2. Such bacteria may retain their capability of growth for an indefinite time.
3. Many pathogenic bacteria possess similar capabilities, and it is not unreasonable to assume that transmission of bacterial disease by the thermometer is possible.
4. Thermometers are easily disinfected.

* * *

A Brief Note on Aspergillus Keratitis. J. M. Bull. *American Medicine*, July 6, 1901.

Although less than a dozen cases of this nature are described in literature, Ball thinks it is more common than is generally thought. He reports a case in a farmer, forty years old, who presented a corneal ulcer, at the bottom of which was a small round body. On microscopical examination a large number of mycelial threads of yellowish-brown color were observed. From further observation the author concludes that the condition was a keratitis due to a fungus—the keratomycosis aspergillus. The following points in the paper may be emphasized:

1. Aspergillar keratitis is a more common disease than has been supposed by writers on opthalmology.
2. Intense pain in the eye, followed by the development of a brownish or black mass within the substance of the cornea, are pathognomonic signs of aspergillus keratitis.

3. Removal of the mass early on the case is followed by uninterrupted cure.

4. Failure to recognize the condition and apply proper treatment is followed by sloughing of the cornea.

5. In the few cases of keratomycosis aspergillina where cultures have been made, only aspergillus fumigatus has been found.

* * *

THE VISCERAL FORM OF CONGENITAL SYPHILIS, ESPECIALLY IN THE GASTRO-INTESTINAL TRACT. S. Oberndorfer. *Virchow's Archiv*, Vol. LIX.

In a four-months' child with congenital syphilis there was found, besides gumma of the liver, a large number of ulcers in the stomach, ileum, and large intestine. Microscopical examination showed erosions upon a gummatous basis. The enlarged suprarenal capsules contained miliary gummata.

Oberndorfer has collected the literature of these cases, and tabulates fifteen cases of syphilis of stomach—six in congenital and nine in acquired syphilis. For the most part the submucosa is the point of origin of the ulcers. The clinical symptoms showed nothing characteristic of syphilis.

* * *

TWO CASES OF LYMPHO-SARCOMA, AND REMARKS UPON DIFFERENTIAL DIAGNOSIS OF SOME GENERAL GLANDULAR ENLARGEMENTS. J. H. Abram. *Thompson-Yates Laboratory Reports*, Vol. II.

After reporting two cases of lympho-sarcoma, Abram lays down the following differential diagnostic rules:

For Acute Tuberculosis of the Glands: The rapid cheesy degeneration and necrosis, marked periadenitis and adhesions to the fascia, leucocytosis of the inflammatory type, no skin involvement, are significant.

For Lympho-Adenoma: The isolated condition of the glands, the lack of adhesions, simple anemia without leucocytosis, no skin involvement.

For Lympho-Sarcoma: The rapid agglomeration of the glands, the infiltration of the tissue, leucocytosis of mononuclear cells, skin involvement.

For Lymphatic Leukemia: Isolation of the glands, marked mononuclear leucocytosis.

Common to all the conditions are splenic tumor, anemia, hemorrhage, and irregular fevers.

* * *

THE EXPERIMENTAL PRODUCTION OF HEPATIC CIRRHOSIS. Vaughn Harley and W. Barratt. *Journal of Pathology and Bacteriology*, February, 1901.

In a previous communication the authors described the artificial production of cirrhosis of the liver by means of ligature of the left hepatic duct in cats, the animals being killed at the end

of from five to six months. In the present article further investigations are described. In addition to cats, dogs have been used for experiment, and the animals have been kept alive for sixteen months. The changes in the liver are considerably more advanced than those observed in the preceding work.

After the operation of ligating the left bile duct, it is of importance to keep the animals alive for several months, in order that easily recognizable changes may develop. If no change is visible to the naked eye, a microscopic examination is necessary in order to ascertain the presence or absence of interstitial changes. In all cases portions of the ligatured and non-ligatured areas should be sectioned and compared. Where a single bile duct is ligatured the portion of the liver remaining outside the area of ligature remains unaffected, while the following changes occur in the ligatured area:

1. A development of interlobular fibroid tissue occurs. In this tissue small collections of multipartite nuclei are occasionally met with, but such collections form but a small fraction of the interlobular tissue.

2. The larger bile ducts become dilated, and there is marked hyperplasia of the smaller bile ducts lying between the lobules, which become tortuous and appear considerably increased in number.

3. The hepatic lobules atrophy, the atrophy commencing at the periphery, and proceeding from without inwards.

4. The rapidity with which these changes develop and their intensity vary considerably in different animals of the same species, though the operative procedure is the same in all cases.

5. The functions of the liver cells in the atrophied lobules still continue, as is shown by the elimination of sodium sulphindigotate, by the presence of bile in the larger bile ducts, and by the unaltered aspect of the liver cells. All these facts are observable when extreme cirrhosis has occurred.

The mode of production of cirrhosis after ligature of a single bile duct appears to be as follows:

1. The interlobular fibrosis is attributable to the continued slight irritation set up by bile, which passes through the walls of the smaller bile ducts by osmosis, caused by the increased pressure of the bile resulting from ligature. Rupture of the smaller bile ducts probably is not an effective factor in experimentally-induced cirrhosis.

2. The dilatation of the larger bile ducts and marked increase of the smaller ones is, in part at any rate, directly due to the ligature, and is comparable to the extreme elongation and increase in the size of the veins and venules which is seen in considerable degree in varix of the lower extremities and in varicocele.

3. The atrophy of the lobules is due chiefly to the irritant effect of bile which has passed out of the bile ducts, and which acts principally, if not almost exclusively, upon the peripheral

portion of the lobule. It does not appear that pressure upon the lobules caused by the newly-formed interlobular fibrous tissue is an effective factor in causing atrophy.

* * *

Experimental Bacillary Cirrhosis of the Liver. L. Hektoen. *Journal of Pathology and Bacteriology*, February, 1901.

The author refers briefly to recent demonstrations made in his laboratory of cirrhotic processes in the livers of animals directly induced by two different bacilli. The observations are of interest as suggesting the possibility of a somewhat similar course of events in some instances of human cirrhosis. Similar more or less acute infections in man may induce a diffuse growth of new connective tissue in the liver. While the bacteria may be destroyed, and the immediate effects of their presence pass away, the newly-formed tissue in the liver remains, and as it contracts a vicious circle is established; the pressure of the resulting fibrous tissue causes necrobiosis of the hepatic cells, which, in turn, leads to renewed connective-tissue proliferation.

Of the two bacilli used, one belongs to the colon group. In the animals which succumbed early to this organism, necrotic and degenerative changes only were present; in those living longer, proliferation of connective tissue was associated with necrosis.

The second observation concerns a bacillus that may be placed in the pseudo-diphtheria groups. Inoculations with this bacillus and its products have been found to produce with a fair degree of constancy more or less necrosis and diffuse cirrhosis of the liver in guinea-pigs and other animals.

* * *

Primary Endothelioma of the Left Superior Pulmonary Vein. Joseph Sailer. *Contributions from the William Pepper Laboratory of Clinical Medicine*, 1900.

The author reports a case of primary endothelioma of the left superior pulmonary vein, characterized by hyperplasia of the connective tissue, stroma, and enlargement of the lymph spaces and vasa vasorum, with proliferation of the endothelial cells in these spaces. The tumor was not malignant, gave rise to no metastases, but by mechanical compression of the superior pulmonary vein caused atelectasis of the upper left lobe of the lung. The presence of anthracotic pigment in the collapsed lung tissue shows that the tumor developed in later life. The round-cell infiltration lets us suppose that it was associated with some kind of chronic irritation. No degeneration.

The endotheliomata should be sharply separated from all forms of carcinoma. Their malignancy depends largely on their localization. There are benign as well as markedly malignant endotheliomata. The term "endothelioma" is too indefinitely used. As in all other tumors, the etiology of endothelioma is uncertain. Possibly traumatic and inflammatory conditions play an important *rôle* in their causation.

Society Reports.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD APRIL 19, 1901.

THE meeting was called to order by the president, Dr. W. J. Todd.

Dr. Lawrence Flick of Philadelphia read a paper on the "Registration of Tuberculosis."

Dr. C. Hampson Jones, Assistant Commissioner of Health for Baltimore, exhibited a number of maps showing the distribution of tuberculosis in the city, and presented a paper on this subject.

Dr. H. Warren Buckler read a paper on "The Care of the Indigent Tuberculous."

Dr. Bosley, Commissioner of Health for Baltimore: A little more than a year ago, when I became Commissioner of Health, Dr. Jones was preparing maps to show the location of the most important diseases occurring in this city. I have watched for a whole year the interest he has shown in the work and the labor it has cost him, and I want to say to the profession that to him is entirely due the credit for preparing the excellent maps he has shown.

I have been amply repaid for coming here tonight in hearing the very excellent paper presented by Dr. Flick. The subject has been presented most plainly, and he has made a convert of me, for when I came here I was opposed to the registration of tuberculosis. I have always claimed that the medical profession has not treated its patients with fairness. Doctors usually use evasive language in talking to such patients, telling them that they "must be careful or they may contract consumption," or "you have weak lungs," etc. They have not dealt honestly with these patients. Now, I have claimed that until they deal more frankly with the public we should not register this disease. Dr. Flick has presented his side of the argument so convincingly that he has converted me to his own belief in the registration of tuberculosis.

Dr. Osler: When the history of the work done on tuberculosis in this country is written three names will stand out with remarkable prominence. The late Dr. Austin Flint, who, though stricken in years when Koch's discovery came out, and though he had taught views diametrically opposed to Koch's, yet when the demonstration came, at once accepted it, threw the remarkable weight of his experience and teaching in every way to its aid, and did more in three months to diffuse a knowledge of Koch's discovery throughout this country than any other man. He, in the conservatism that is usually associated with threescore years plus, might have opposed it and retarded the acceptance of that very important discovery. The next name on the roll of honor is that of our guest of this evening. I call to mind the labors, the worries and the annoyances that Dr. Flick had to experience in that center of ultra-conservatism and delightful old city, Philadelphia. I remember well his first paper (for though he looks youthful, he is not), as long ago as 1886, in which he demonstrated the all-important fact that tuberculosis is very largely a house disease, and when the history of the important work done in this country on tuberculosis is considered, that piece of work of Dr. Flick's will stand out as second to none. The third name to be mentioned is that of our dear friend, Dr.

Trudeau, who, stricken with the disease himself, went out into the wilderness and not only fought his own battle successfully, but did more than any other man in this country to help his fellow-creatures fight their battles to a successful issue.

The point under discussion is the registration of tuberculosis, and to that I will confine myself, making but one preliminary remark. I do not think we can say that all cases of tuberculosis are contracted by personal contact with other tuberculous patients. I do not agree with Dr. Flick on that. I regard the tuberculosis germ as more widespread than that, and I do not think there is any doubt that many healthy people contract the disease in the street cars, railroad cars, on the street, and in other places only transiently occupied by tuberculous patients. The reason we do not all die of tuberculosis is the same reason given to explain why, when the sower went forth to sow his seed, that which fell on good soil brought forth an hundred-fold, while that which fell on the stony land did not grow. The good soil for tuberculosis germs is found in just the places Dr. Jones has marked on his map—in the narrow streets and alleyways, in the sweat-shops, where so many poor devils have to perform their work, and in the poor and crowded houses under conditions in which thousands of our fellow-citizens have to live. They repeat over and over again on human beings the vivisection experiments that are not talked of in the infernal humane papers.

Experiments made upon guinea-pigs to show the importance of this point demonstrated that those which were inoculated and then kept in pens under the ground, where they could not get light and air, all died, while an equal number infected in the same way, but kept in fresh air and sunshine, all recovered. In other words, the inoculated animals living under conditions exactly like those we ask our fellow-creatures to bear in tenement-houses and narrow alleys all died. So there are hundreds of us with the same inoculation that do not die because we live in sunshine and have good food to maintain our nutrition. That is the reason why the whole race has not been swept out of existence.

The question of registration always seemed to me to be one of great simplicity, for it rests with the doctors. There is no reason why we should not ask our fellow-practitioners to send in the names of these patients. I do not agree with our friend, Dr. Flick, that we should not ask our friends to do this work; they are not paid for it; but, heaven knows, the best work we do is that we get no pay for, and the sending in of such information is a good work, even if we are not paid for it. The details of such a law might be very simple, and there need be no trouble in securing the reports, and no annoyance to the people. It would be in the interest of the health of the people, for it would tend to prevent the spread of the disease and to secure treatment and care for a large class of people who, unless they get such assistance from the Health Board, do not get it at all. It is a somewhat different matter for the consideration of wealthy people. They do not need assistance in the way of treatment, but they do in the way of prevention. Doctors, as a rule, are, I think, beginning to deal more honestly with their patients on this score. We are just as safe living in a house with a patient known to have tuberculosis as we are in walking down Charles street, because, knowing this, proper precautions can be taken.

There is less danger of taking tuberculosis in Dr. Trudeau's sanitarium than in going through some of our tenement-houses. When, however, a patient dies of tuberculosis his house should be at once taken charge of by the Health Board, and not turned over to the landlord until properly disinfected. When that procedure is established the number of deaths from tuberculosis will be reduced not 20 or 40 per cent., but from 60 to 80 per cent. within a very few years.

Dr. Fulton: The contagious nature of tuberculosis and the duty of restricting it have been recognized for a long time by health boards, but they have not hitherto recognized the expediency of including it with the diseases requiring compulsory notification. The more comprehensive laws upon this subject are of very recent origin. In England Parliament has given the local boards of health the right to name the diseases subject to compulsory notification, but none of the 800 or 900 local boards have yet made the experiment of including tuberculosis among the notifiable diseases. In America we have had two experiments of that sort, but up to the present time it cannot be said that their results have been very convincing. The State Board of Health of Michigan has the right to make any communicable disease a notifiable one by a vote of the board, and not long ago attempted to make pulmonary tuberculosis so notifiable under penalty. A storm of opposition seriously imperiled the excellent sanitary administration of that State, and made a breach between the medical profession and the State Board of Health which has not yet healed. If the State Board had not receded somewhat from its position the results might have been disastrous. The Board was not compelled, however, to withdraw entirely from the ground it attempted to occupy.

New York city made a similar attempt some years ago, and there, too, violent opposition arose on the part of the medical profession, as a result of which bitter feelings will remain for years to come. The Board of Health has stood firm, but the profession has resorted to delays and evasions, and even, it is said, to falsification of death certificates. I am aware that good results have been claimed for this New York law, but neither the letter of the law nor its administration has been changed, and since the temper of the profession can hardly have yielded, it is fair to doubt if any good results are yet to be admitted, though future benefits will probably accrue.

In Philadelphia the impulse towards notification came from the medical profession, where it should have originated, and the prospect of success should be good. I do not know the details of the proposed law, but the criticisms directed against it there have been diametrically opposite to those made in New York. In the latter city it was said that the activity of the Health Board injured the profession without benefiting the public. In Philadelphia it is said that the notification act gives to the Board so little power that no good results are likely to be attained. The Philadelphia scheme has not so far caused any marked opposition from the profession.

I wish I could feel as comfortable as Dr. Osler does about the details of such a law. It would be interesting to know how much authority on this subject Baltimore physicians are willing to put into the hands of the Health Board. I have thought much over the question, and it seems to

me that a safe thing at present would be a law requiring physicians to notify the authorities of all cases that they recognize as pulmonary tuberculosis, the notification to be used for statistical purposes only. It would be possible for the Board of Health to frame this notification so that the restrictions of the ordinance could be waived by the physician.

The public danger in a case of consumption varies much with the environment of the case. The consumptive man of leisure, living in a good neighborhood, under first-rate medical supervision, presents a problem differing widely from that presented by the consumptive tailor working with a dozen men in a sweatshop, unable to cease labor, as ignorant and indifferent as his fellows are. I fancy that the average physician would usually be quite willing to waive all the restrictions of a guarded notification ordinance in the latter case, while with respect to the former case he would desire the information to be used, at least during the life of the patient, only as statistical information. It should be possible, upon notification, to circularize, to visit and instruct, to disinfect, to isolate in all the dangerous cases which now work unhindered mischief. Of course, to such a guarded notification law there is the reasonable objection that the law should not restrict its own powers unduly, out of regard to the private interest of the individual.

Wherever discussions on tuberculosis are held one observes, as here, that the registration idea chiefly occupies the attention of participants. This signifies, I think, that the professional mind realizes the fundamental importance of notification in any well-planned campaign against the disease, and one is encouraged to believe that a practical plan will soon be worked out.

Dr. Stokes: I would like to ask Dr. Flick a question. In speaking of the transmission of tuberculosis he mentioned the danger from being brought into contact with tuberculous patients, and as it is well known now that the fine, moist spray which a patient ejects when coughing or sneezing is much more virulent than the organism as found in the dry dust of the house, I would like to ask how great a part he considers that this spray may play in the dissemination of the disease, and how it is to be prevented.

Dr. Watson: I would like to ask Dr. Osler if he considers it wise to tell every patient who has tuberculosis just what the nature of his disease is. It seems to me that there are some cases where it would not be advisable, and I have adopted this rule: Where the case is incipient, and I can offer the patient the hope of getting well, I tell him what he has and give him advice as to how to improve his condition, but if I think it is a hopeless case I hesitate long before telling him. I have had some experience in that line of destroying all hope, and I think it sometimes makes the balance of the patient's life more unhappy.

I have been one of those who thought we were running a great deal of risk from contagion in public places and conveyances. I recall one instance which makes me think that the tubercle bacillus is more prevalent than one would be led to think from Dr. Flick's remarks. In one family under my care the oldest son is now in Colorado for treatment, and another child with tuberculous hip disease is now in one of our hospitals, a third child died of tuberculous meningitis, and a fourth has tuberculous

glands in the neck. Since the first child went to Colorado the family has removed from the house in which he lived, and the others have all developed their trouble since his departure and the moving. The father and mother are both healthy individuals.

Dr. Craighill: From a large experience in dispensary work it seems to me that the Health Department ought to have very little trouble in getting reports of quite a large number of the ambulatory cases. These cases, appearing every few days at the dispensaries, form a large percentage of the cases that the Health Department should be most anxious to have reported.

Dr. Flick: I will take a few moments more to answer some questions and to say something on a few of the points that have been raised. It takes some courage to disagree with my friend, Dr. Osler, particularly after the many nice things he said about me, but I would like to give a few of the reasons why I no longer hold the views I once did concerning the tubercle bacillus. I did at one time believe that the living bacillus existed almost everywhere, but I have been thoroughly convinced to the contrary by two facts. The first was the experiment that must be familiar to Professor Osler in which very careful examination was made to determine the distance from a tuberculous subject to which contamination would occur, and in which it was found that the distance was exceedingly limited. The same worker, further pursuing the same line of study, gathered up the dust in many public places and proved very clearly that the danger of inhaling the living tubercle bacillus from such public places is comparatively slight. The other fact was a study I made myself in Philadelphia some years ago by carefully going into the history of every case of tuberculosis I could gather in the fifth ward of that city for a period following the twenty-five years in which I had tabulated the death records. I investigated the history of every case occurring for a year, and was able to trace the source from which implantation occurred in about 75 per cent. of the cases. Now, the other 25 per cent. may have contracted the disease incidentally on the streets or in public meeting places, but being able to account for 75 per cent. of the cases by direct contact, I could not help concluding that the danger of contracting the disease in public places must be comparatively slight.

Professor Osler misunderstood me on the other point. I heartily approve of the physician co-operating with the Board of Health, but I said that as things are now we cannot expect the physician to introduce and carry out preventive measures. He may be asked to report the existence of his cases, but it would be asking too much of him to go to the trouble of giving instruction in the institution of preventive measures. That should be the duty of the public health officers.

A question was asked as to the danger from the moist spray ejected by patients in the act of coughing. Personally, I do not believe the danger is very great.

Upon motion of Dr. Osler a vote of thanks was extended to Dr. Flick for his entertaining and instructive address.

H. O. Reik, M.D., Secretary,
5 West Preston Street.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, AUGUST, 1901.

THE CONSUMPTIVE WAGE-EARNER.

THE humane idea in public hygiene is destined to attain in connection with the prophylaxis of tuberculosis a greater prominence than it has ever held in the minds of statesmen. This idea does not, however, come into view at a first examination of the problem.

To undertake the care of the army of consumptive poor at public cost is to the publicist a most alarming proposition, and he is not reassured when told that public funds already support and have always supported just that burden. The cost of consumption is, of course, included, though not itemized, in the profit and loss account of every community. What the publicist fears is the conversion of the indirect tax into a direct one before the general public have grasped the idea that the move is really in the direction of economy. We are already caring for the poor consumptive, as Dr. Pryor says, "in the wrong way, at the wrong place and at the wrong time," and this we shall continue to do so long as the cost of tuberculosis is concealed in the general relief account of sickness and poverty.

When it is realized that in this enormous tax tuberculosis is about the largest single item, and is a tractable item, the public will not hesitate to negotiate directly with tuberculosis. Then we shall begin to care for the consumptive "in the right way, at the right place and at the right time." We shall have come so far chiefly for the sake of lessening the future burdens of tuberculosis, hoping that the crop of new infections may be materially restricted by the proper care of those already infected. The poor consumptive will be cared for not upon his own account, but for the sake of those whom his infection endangers.

When it appears that many of these sufferers can, by proper treatment, be returned to the ranks of wage-earners, either cured or as temporarily safe associates, we shall, for economic reasons, seek to bring such cases under public care as early and in as large numbers as possible.

For the cure or arrest of tuberculosis three things are requisite—rest, good food, fresh air—and of all therapeutic agencies, these are the most expensive. Public care of the consumptive, therefore, involves a proposition to bestow upon large numbers of the poor comforts whose cost exceeds the private means of all but the very rich. Is a wage-earner worth so much? Until quite recently wage-earners have not been held so dear, and, curiously enough, the German workingmen of the cheapest sort have been found worth the price.

In a recent address on "Our Duty to the Consumptive Breadearner," Sir J. Burdon-Sanderson (*British Medical Journal*, July 6, 1901) gives an account of the sanatorium movement in Germany, and of the working-

men's insurance in that country. Incidentally it may be mentioned that he makes an argument for notification, though speaking only of voluntary registration. The first step, he says, is "to obtain information as to the persons whom we desire to benefit," not, however, for purposes of sanitary administration, "but as enabling us to enter into personal relation with the workmen in the initial stage of the disease, this being the first step towards giving him the aid that he needs."

To meet the great need of sanatoria for the consumptive poor, first recognized in 1890, there were built in Germany in ten years forty-nine sanatoria, costing for construction $5,000,000. The cost of maintenance in the year 1900 was about $1,000,000, of which sum about one-fifth went to the support of the families of consumptive breadwinners. When the sanatorium system is complete, extending its benefits to all parts of the German Empire, the annual cost of maintenance will be more than $5,000,000. And the chief profit is in the restoration of wage-earning power to the poorest of German workmen.

All workingmen earning less than $500 a year are obliged by the law of that country to insure against sickness and old age. There are 13,000,000 so insured. These people paid half of the initial cost of the sanatoria and three-fourths of the cost of maintenance. Of the 13,000,000 of insured persons, not more than 1 per cent. are at any time beneficiaries by reason of sickness. Of those incapacitated, one-third have tuberculosis. It would appear, then, that about 450 workingmen, having incomes averaging under $500 a year, are able to keep one consumptive at rest, with abundant food, fresh air and medical attendance, and that it pays them to do so.

The incidence of consumption upon this class is much greater than upon those earning higher wages, so that the cost of caring for the consumptive poor need not be near so large a burden upon the general public as is indicated by the profitable experience of these German workingmen.

Not all the consumptives in this class choose to resort to the sanatoria, so that we shall shortly be able to compare the experience of those who are cared for in sanatoria with those who remain in their homes. Burdon-Sanderson, upon the observations of Williamson, ventures to estimate the probable profit of sanatorium treatment as follows: Consumptive workingmen, cared for at their homes, show 50 per cent. mortality in three years from the initial illness. Of 100 such workingmen, treated in sanatoria, seventy would in a year be returned to wage-earning, and at the end of three years fifty would still be found capable of earning a livelihood. Among the remaining survivors all degrees of impaired capacity and dependence would be represented.

Public sanatoria will confront us after a while with the claims of those whose alternating periods of improvement and relapse make a long story, and bid us consider whether the fragments of shattered lives are worth the gathering. In the beginning it will not be attempted to nourish at public cost the flickering hope of the advanced consumptive, but in the course of time, these cases having had public care, will be the derelicts of the public, and the question will be whether they shall be abandoned. When this problem comes fairly into consideration, the losses from tuberculosis will have been so far mitigated that a well-paid and satisfied public will settle the question upon grounds not of economy, but of humanity.

FORMALDEHYDE AS A FOOD PRESERVATIVE.

The use of formaldehyde as a food preservative has reached enormous proportions in this country. Its presence in milk has often been the ground of legal action against dairymen. Usually in this country its use has been condemned and punished. Its properties have been exhaustively studied by many observers, but substantial agreement as to its effects on digestion and nutrition has not yet been reached, except as concerns its harmlessness when used in small amounts by healthy adults.

In the *Journal of Hygiene* for July, F. W. Tunnicliffe and E. O. Rosenheim report their investigations upon the influence of formaldehyde upon the metabolism of children. These observations were made upon three children, a healthy boy aged two and one-half years, a healthy boy aged five years, and a delicate girl aged four years, convalescent from pneumonia. The first two were observed during twenty-eight days, divided into four periods—seven days during which no formaldehyde was given, seven days which the milk contained formaldehyde in the proportion of 1 to 10,000, seven days when formaldehyde was added to the milk in the proportion of 1 to 5000, and lastly, seven days when no formaldehyde was used. The third child was observed during twenty-one days, divided into three periods of seven days each, receiving during the second period formaldehyde in the proportion of 1 to 5000. The total food in the first two cases was formalized to the extent of 1 to 18,000 for one seven-day period, and 1 to 9000 in the other seven-day period. In the third case the total food was formalized 1 to 9000. The authors' general conclusions are as follows:

"1. In healthy children formaldehyde administered in doses up to 1 to 5000 in milk, or 1 to 9000 in total food and drink, exerted no appreciable effect on the nitrogen or phosphorus metabolism or on fat assimilation. The analytical figures suggest, however, that formic aldehyde has a tendency to diminish phosphorus and fat assimilation, and hence it may be inferred that in larger doses, or if continued for a longer period, it would act in this direction.

"2. In healthy children formic aldehyde in the above doses produces a retention of water in the body.

"3. In a delicate child formic aldehyde in the above maximum dose had a chemically measurable deleterious effect upon the nitrogen, phosphorus and fat assimilation, again referable to an action upon the pancreatic digestion, combined with a slight intestinal irritant action. There was a slight tendency to stimulate the katabolism of proteid material.

"4. In a delicate child formic aldehyde increased the volume and the weight of feces.

"5. In all cases the excretion of lecithin in the feces was diminished under the influence of formic aldehyde. This effect is probably referable to a stimulating action of formic aldehyde on the lecithin-splitting ferment of the pancreas.

"6. In no instance did formic aldehyde exert any intestinal antiseptic action.

"7. In no instance was there any influence on the general health or well-being of the children."

While these conclusions are interesting and valuable, they are hardly reassuring as to the possible influence of formaldehyde upon the health of infants, who are the chief consumers of formalized milk.

Medical Items.

ANTHRAX has appeared among cattle in Kent county.

WAGHINGTON is now free from smallpox. The quarantine hospital was closed on July 7.

THE Board of Estimates of New York city has appropriated $65,000 to the use of the City Board of Health for the suppression of smallpox.

GOVERNOR-GENERAL LEONARD WOOD is down with typhoid fever in Havana. The attack is not severe, and his recovery is expected.

THEY are counting up the cost of smallpox just now in Glasgow, where the epidemic is steadily abating. They have spent about $225,000.

JUSTIN DE LISLE and Louis Jullien announced to the French Academy of Medicine recently their identification of the specific bacillus of syphilis.

PROF. RUDOLPH VIRCHOW lately sustained an injury to his head while out walking on a windy day. He was taken home in a carriage. The injury is not serious.

THE forthcoming report of the United States Marine Hospital Service to Congress upon leprosy will show, it is said, that there are about 900 cases in this country.

THE only cases of smallpox reported in Maryland during July occurred in one house in Washington county. There were four cases, an entire household, none of whom had been vaccinated.

BALTIMORE and Philadelphia both broke the mortality records in the week ending July 6—451 deaths in Baltimore and 857 in Philadelphia, being the largest numbers ever reported in a single week.

DR. HENRY M. REVELL died of typhoid fever at his home near Asbury, Anne Arundel county, on July 2. Dr. Revell graduated at the University of Maryland in 1876, and was forty-six years of age.

DR. EMMA V. WARNE, who sued the estate of Francis T. Wheeler for the sum of $100,000 on account of medical services for two years, was decided against by the Probate Court of Chicago. She will appeal.

DR. JOHN BEAUREGARD HART died at the Sheppard and Enoch Pratt Hospital on June 29. Dr. Hart was a graduate of the University of Maryland, and spent the whole of his professional life at Waverly, where he had a large practice.

THE excessive heat of the first two weeks in July overtaxed the capacity of the Baltimore hospitals. In Philadelphia the overcrowding of the hospitals required the use of tents for sheltering patients. Many business houses devoted portions of their buildings to the care of persons overcome by heat.

AMONG the Baltimore medical men now in Europe are Dr. Wm. Osler, Dr. Samuel C. Chew, Dr. Francis T. Miles, Dr. T. Wardlaw Miles, Dr. T. C. Gilchrist, Dr. Harry Friedenwald, Dr. James M. Craighill, Dr. Thomas R. Brown, Dr. L. M. Allen, Dr. Robert Hoffman, Dr. Frederick Taylor, Dr. Marie Thalwitzer, Dr. Robert Reuling.

THIS is the way State aid is dealt out in Pennsylvania: The Medico-Chirurgical Hospital gets $190,000, the Free Hospital for Poor Consumptives $110,000, the Medical Department of Western Pennsylvania Hospital $100,000, University of Pennsylvania $25,000, University of Pennsylvania Hospital $58,000, Taylor Hospital $15,000, Titusville Hospital, Jewish Hospital (Philadelphia), St. Joseph's Hospital, $10,000 each, and smaller appropriations to several other medical institutions.

A COMMUNITY on Long Island has, it is said, been scandalized by the proceedings of the patients at an institution for physical culture, where a new treatment is practiced known as the "air and sun cure." The devotees of this fad appear so scantily dressed that curious people began to come from miles around to see them. When at length the too naked faddists went to the village church the citizens revolted and served notice on the proprietor of the establishment that patients would be roughly handled if they appeared in public.

Gilles de la Tourette, the eminent alienist and the distinguished pupil of Charcot, has himself become insane, and is in an asylum.

A fresh outbreak of bubonic plague has occurred in San Francisco. A Chinaman, reported to have just arrived in the city from one of the islands on the Sacramento river, died on July 6. Three Japanese prostitutes also died of the plague in a house in Chinatown. These cases were sick before the arrival of the Chinaman. The autopsy confirmed the diagnosis in three of the four cases. This is a fresh outbreak, no cases having been reported since April. The situation is now being treated in a frank and decided manner, so that no serious danger is apprehended.

Among the interesting discoveries made in the course of meat inspection recently is the steady demand for certain sorts of offal for human food. Pregnant cows furnish very special tidbits. Unborn calves are quite salable, and placentae are often purchased, particularly by Chinese and Italians. Just what sort of dish can be made of a placenta the inspectors are not anxious to know. The meat of animals dead of disease sometimes gets into the market. The abattoir people will butcher and dress any animal that is alive when it reaches the stock-yards. Sick animals are not infrequently brought to the slaughtering floor in wagons, and if death is ahead of the butcher, the ceremony of slaughtering and dressing goes on just the same, provided, of course, an inspector is not in sight.

The New York papers have given much space in editorial and news columns to the paid-chair controversy which has enlivened Madison Square. The unfortunate contractor, Mr. Spate, has been worsted, and the chairs had to go. The *Medical News* advocates the pay chair in opposition to the daily papers. The editor says: "The trained eye of a physician has seen in Madison Square within the past year a man with smallpox stretching himself comfortably along a bench, a dozen men with well-developed barber's itch, ringworm and other scalp diseases by the score, children with eruptive pustular diseases, and contagions of every kind, to say nothing of the profuse expectoration of tuberculous sputum. A disinclination to sit on the same bench with a man who is covering his immediate vicinity with tobacco juice, or with one with filthy social habits, or a third who is sleeping off a night's debauch, undoubtedly shows a haughty spirit of class discrimination which is evidently what the *Sun* intends to rebuke, but we implore this powerful journal to waive for a moment its fundamental principles of democracy and to seriously consider the fact that the Spate chairs are a long step in advance in matters of comfort and also of health."

The International Congress of Tuberculosis opened at St. John's Hall, London, on July 22. Some 2500 delegates were present, of whom 400 were foreigners. It was expected that King Edward would open the congress, but he was not present, though represented by the Duke of Cambridge, who made a brief speech and read a telegram from the King. Lord Lansdowne made the address of welcome on the part of the government. Lord Lister spoke for the medical profession of Great Britain. Very many distinguished laymen were present at the opening session, among them the foreign ambassadors and ministers. In the evening a dinner was given by Sir James Blyth to a number of the delegates. Robert Koch is, of course, the most important delegate, and the daily papers claimed to have secured advance information as to what Koch would have to say. It was reported that he would upset the present foundations of prophylaxis, that he would announce his discovery that the bacillus of human tuberculosis and that of bovine tuberculosis are "*totally* different species." We were promised that Koch would say that tuberculin is either capable or incapable of being inoculated into men or into animals. Just which of four possible bits of nonsense the reporter meant to attribute to Koch on the subject of tuberculin could not be decided by reading the story ever so often. The great man was said to have demonstrated that tuberculous meat and milk may be consumed with "absolute impunity," and so it may; but then, again, it may not. Brouardel was also reported to have a pocketful of astonishment.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 9 BALTIMORE, SEPTEMBER, 1901 Whole No. 1000

BLOOD EXAMINATIONS AS AN AID TO SURGICAL DIAGNOSIS.

By Joseph C. Bloodgood, M.D.,
Baltimore, Md.

PAPER READ BEFORE THE AMERICAN SURGICAL ASSOCIATION, AT BALTIMORE MAY 6, 1901.

Shock and Hemorrhage.—Observations have demonstrated that there is a leucocytosis of 15,000 to 24,000 following hemorrhage. As a rule, this comes on within a few hours. There are not sufficient observations to demonstrate the relation between the amount of blood lost and the leucocyte-count. We have not sufficient data to clearly determine the exact changes in the number of white blood-cells in shock from injury alone without loss of blood.

Following hemorrhage, in addition to the rise in the number of leucocytes, there is a diminution in the number of red blood-cells and the percentage of hemoglobin. In severe hemorrhage a blood-count will indicate to a certain extent the amount of blood lost, but, as a rule, not until six or more hours have intervened after hemorrhage.

The examination of the blood after contusion of the abdomen, to ascertain, if possible, whether we can distinguish by the changes in the elements of the blood the difference between shock from the injury alone, internal hemorrhages, and peritonitis from rupture, are not sufficient in number to allow any conclusions.

Cabot ("Clinical Examination of the Blood," William Wood & Co., New York, 1898, and "International Text-Book of Surgery," Warren & Gould, 1900, Vol. I, p. 81) writes: "Often one hears the question discussed in any accident-room in any hospital whether to operate at once or wait until the patient has got over the shock. The question is not often asked, far less answered, whether the shock is simple or largely anemic (cerebral or general) from loss of blood, or whether it is of nervous origin, *i. e.*,

due to concussion or compression. The right decision of this question is of great importance, for if the shock means anemia transfusion may be indicated, while in a condition of cerebral concussion or compression transfusion will probably do harm." (Authorities do not agree with Cabot. Transfusion is not contraindicated. See *Progressive Medicine*, December, 1900, p. 108.) "An examination of the blood enables us in certain cases to decide such a question—that is, if the number of red cells is considerably diminished (3,500,000 or less), and the patient is known not to have been previously anemic, the shock probably means hemorrhage." "The blood-count may enable us to gauge approximately the amount of hemorrhage. Here it should be remembered, however, that immediately after hemorrhage the count may be normal, since only the amount and not the quality of the blood is affected. Within a few hours, however, fluid is absorbed from the tissues into the vessels, and then an anemia will be indicated by the blood-count." "An internal or cerebral hemorrhage, a rupture of an extrauterine pregnancy, ruptured aneurism, laceration of the spleen, kidney or liver, etc., can sometimes be diagnosed by the blood examination."

McLean (*Medical News*, December, 1899, Vol. LXXV, p. 713), in his article entitled "Examination of the Blood in Surgical Diseases," practically adds nothing new to Cabot's statement in regard to the blood examination in shock.

The Importance of a Careful Blood Examination Preliminary to General Anesthesia.—There are now sufficient observations to demonstrate pretty conclusively that in marked anemia, especially when the hemoglobin percentage is low, that general anesthesia, especially if prolonged, is dangerous. Some authorities give 50 per cent., others 40 per cent., but the majority agree that 30 per cent. of hemoglobin is a danger signal, and, if possible, the operation should be delayed until appropriate treatment has been used to increase the percentage of hemoglobin and the number of red blood-cells.

This important subject has been studied by Cabot (*loc. cit.*), Da Costa, Mikulicz, Hamilton Fish (*Annals of Surgery*, 1899, Vol. XXX, p. 79), and others.

My own experience has been sufficient to indicate the truth of their statements. An anesthetic has great additional dangers when given to patients with the hemoglobin estimate below 50 per cent.

Post-Operative Leucocytosis.—There is need for much more study on this question. Most authorities agree that following ether there is *perhaps* a slight increase in the leucocytes, which, however, disappears within twenty-four and at most thirty-six hours. In operations with much loss of blood there would, of course, be a temporary rise in the leucocytes; but, on the whole, in the average operation one should expect the leucocytes to be within the normal limits—twenty-four hours after operation. If

this is true, a sudden rise in the leucocytes would indicate some post-operative complication. In abdominal surgery it would suggest peritonitis, although if the peritonitis was a very grave infection the leucocytes would soon fall rapidly. Perhaps the leucocyte-count as an aid to the post-operative diagnosis in abdominal surgery is most certain in the early recognition of obstruction. Here there is always a rise, usually over 20,000, associated with any obstruction of the intestines. This rise generally takes place within from eight to twenty hours after the beginning of the obstruction, and in a few cases observed the rise in the leucocytes had been prominent before the clinical symptoms themselves were sufficiently clear to make a positive diagnosis. The number of observations so far have demonstrated that when, after laparotomy with general anesthesia, the patient develops slight distention, or even marked distention, with nausea and vomiting, which seems more or less due to paralysis of the intestines, and not to a definite obstruction or peritonitis, *the leucocytes do not rise*, at least not above 12,000 to 15,000. If these observations are confirmed the counting of the white blood-cells would be a great aid in the differential diagnosis in the first twenty-four to forty-eight hours or later, after laparotomy, between benign abdominal distention and obstruction or peritonitis, for which operative interference would be indicated early. This is apparently a closer relation between the extent and character of the operation and the post-operative leucocyte-count than the anesthetic. A more complete report on this is in preparation and will be published later.

Post-Operative Phlebitis.—In a few cases observed there is a rise in the leucocytes, varying from 15,000 to 20,000. Such a leucocytosis has been observed frequently in typhoid phlebitis; but, on the whole, the observations of the changes in the leucocytes after operation are not well established.

If the phlebitis is confined to the iliac veins the first symptoms are those of an acute abdominal lesion, viz., localized pain and slight muscle spasm in the iliac fossa, nausea and vomiting. If on the right side, after operation, the condition might simulate an appendicitis, or, in women, a salpingitis. In typhoid fever the early clinical picture is very much like intestinal perforation. A case of this character has been reported by Harvey Cushing (*Johns Hopkins Hospital Bulletin*, No. 92, November, 1898); also by William S. Thayer (*Johns Hopkins Hospital Reports*, Vol. VIII, 1900) in his article entitled "Observations of Blood in Typhoid Fever."

The Importance of the Leucocyte-Count in the Early Recognition of Acute Abdominal Lesions.—The discussion of this subject is the chief theme of this paper not only because of its importance, but, fortunately, in this field we have more observation.

Explanation of Table.—The following table represents all the counts made on cases of appendicitis. The first count in practi-

cally every instance was made when the patient was first admitted to the hospital, and this count is placed under the time corresponding to the number of hours or days since the beginning of the acute attack; subsequent counts (if made) are noted by dotted lines after the first count under the proper time. In the cases operated upon the last count represents the time of the operation, with one exception, in the group *appendicitis, general peritonitis, operation.* The letters Op. under the figure 20 represent the time of operation. The three subsequent counts are post-operative, and show the fall in the leucocytes, with general peritonitis. Under the column *appendicitis, abscess, operation,* there are only single counts. The figures 2 or 3 in front of the figures, representing the number of leucocytes, indicates that there were two or three cases with this number of leucocytes at this time. Under the column *appendicitis, general peritonitis, operation,* the letter R indicates the patient recovered, and *D* the patient dead. The time in these cases represents the entire interval of the acute attack, and not the duration of the peritonitis, which, in the majority of cases, was impossible to ascertain.

Hours.								Days.					Weeks.		Mos.
6 to 14	16	20	24	30	36	40	48	II. to III.	III. to IV.	IV. to V.	V to VI.	VI. to VII.	1 to 2	2 to 4	1
Chronic and sub-acute appendicitis.															
.....	.....	.....	.....	.....	15	.....	.....	10	.....	10	7	11	6	4	5
.....	.....	.....	.....	.....		.....	.....	10	6	.....	.....	.....	6	6	6
.....	.....	.....	.....	.....		.....	.....	15	.....	.....	.....	.....	7	.....	12
.....	.....	.....	.....	.....		.....	.....	.....	.....	15	14	.....	9	.....	12
Acute appendicitis. No operation. Recovery.															
.....	.....	.....	14	12	.....	.....	17	12	9	.....	.....	14-9	.....	12-8	.....
.....	17	.....	.....	13	.....	.....	11	.....	.....	.....	.....	8	.....	7	.....
.....	.....	22	.....	16	.....	.....	.....	11	8	7	6	.....	.....	.....	.....
Acute diffuse appendicitis. Operation. Recovery.															
8-11	.....	.....	.....	.....	18	.....	.....	11	9	. ....	.....	9	.....	12-10	15
17	.....	17	7	.....	13	17	.....	.....	.....	.....	14-10	.....	.....	.....	.....
.....	.....	10	12	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	13	.....	25	.....	.....	. ...	.....	.....	.....	.....	.....	.....	.....
Gangrenous appendicitis. Operation. Recovery.															
.....	.....	17	.....	...	.....	.....	.....	.....	16	:.....	13	.....	17-20	.....	.....
13	16	24	17	17	35	.....	.....	21	19	.....	... .	.....	.....	.....	.....
.....	13	23	25	.....	.....	.....	14	20-17	.....	.....	.....	.....	.....	.....	.....
Acute appendicitis distended with pus. Operation. Recovery.															
.....	.....	.....	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	19	.....	.....	.....	17 20	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	21-28	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	18 24	35	(5 hours)		.....	.....	.....	.....

Appendicitis. Abscess. Operation.

.....	....	....	11	....	....	....	.....	11	11	12	12	11	8	(2) 6	(2) 9
.....	....	....	18	....	....	....	.....	19	20	16	24	12	14	7	(3)11
.....	....	....	....	....	....	....	.....	22	26	16	26	14	(2)17	8	14
.....	....	....	....	....	....	....	.....	27	30	.....	29	(2)15	(2)18	(2)12	16
.....	....	....	....	....	....	....	.....	.....	.....	.....	.....	(2)18	19	(2)15	18
.....	....	....	....	....	....	....	.....	.....	.....	.....	.....	(2)19	25	(2)18	19
.....	....	....	....	....	....	....	.....	.....	.....	.....	.....	25	60	19	.....
.....	....	....	....	....	....	....	.....	.....	.....	.....	.....	27	.....	29	.....
.. ...	....	....	....	....	....	....	.....	.....	.....	.....	.....	30	.....	(2)28	.....

Appendicitis. General peritonitis. Operation.

.....	14	....	32	....	36	....	25	.....	11	21	14	15	.....	.....	.....
.....	R	....	R	....	R	....	D	.....	D	D	D	D	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	11	24	15	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	D	D	D	.....	.....	.....	.....
.....	....	8	....	....	20	23	26	11	.....	.....	....	.....	.....	.....	.....
.....	....	....	....	Op.F	Op.	....	.....	D	13	25	29	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	D	D	D	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	14	40	.....	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	D	D	.....	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	17	.....	.....	.....	.....	.....	.....
.....	....	....	....	....	....	....	.....	.....	R	.....	.....	.....	.....	.....	....

Leucocytosis in Appendicitis.—When observed within forty-eight hours the number of white blood-cells is in a majority of instances of great value, indicating the extent of the inflammatory condition of and about the appendix. This fact is well illustrated in the table.

Chronic and Sub-Acute Appendicitis.—Sixteen counts. Here we have cases of recurrent appendicitis, or of appendicitis suffering from the first attack; first observed practically at the end of the attack, when the clinical symptoms were subsiding or practically over. The almost uniform low leucocyte-counts, even in this small group of cases, is very suggestive that such an observation is an important additional aid to recognize that an acute attack of appendicitis is subsiding, or, when, seen later after the clinical signs have entirely disappeared, the absence of leucocytosis should be considered a distinct factor in excluding an abscess. It is noticed in the table that the highest count in this group of cases was 15,000. In one, admitted thirty-six hours after the beginning of the attack, and in which the local clinical symptoms were distinctly less according to the statement of the patient, and which when admitted were just sufficient to suggest an appendicitis, observed—these slight local symptoms disappeared, associated with a fall in the leucocytes to 10,000 and 6000. A later operation demonstrated a diffuse thickened appendix, but no pus. Observed between the second and seventh day the leucocyte-counts have been 15,000 in two cases, 10,000 in two cases, in one falling to 7000, and in one case 11,000. *With but a few exceptions* these are distinctly lower counts than in the other groups of cases. In all of these cases, at an operation performed later, a simple diffuse appendicitis was found, with no pus or evidence of infection outside of the appendix. In ten cases observed from one week to one month after the last acute attack, in only two cases were the leucocytes as high as 12,000; the re-

mainder were 9000 and lower. In a majority of these cases there were no clinical symptoms, simply a history of one or more previous attacks. At the operation a diffuse appendicitis was found, with no evidence of pus outside of the appendix. Comparing this group with cases of appendicular abscess admitted from one week to one month after the beginning of the attack (thirty-three cases) we see distinct differences. In those cases with abscess, only six out of the thirty-three cases had leucocyte-counts below 12,000. Some of these thirty-three cases of abscess exhibited no clinical evidence of tumor. This observation demonstrates that in cases of appendicitis admitted *late* in the attack a *high* leucocyte-count is almost a positive evidence of an *abscess*, even when the clinical symptoms have entirely subsided and the abdominal examination is negative. In a few cases, *but only a few*, we may expect to find a small localized abscess, even when white blood-cells show no marked increase; but this is a rare exception to the general rule.

Future observations may demonstrate that the leucocyte-count will aid us in indicating the better time to operate in cases of appendicitis with abscess. Many of these patients come to the hospital at the end of the attack, the clinical symptoms are subsiding or have ceased, and we usually find on abdominal palpation an area of tumor or induration, suggesting a localized collection of pus, which in some instances, however, proves to be a mass of adherent omentum. Now and then in such cases when we have delayed we have found that the localized pus has become much inspissated, and the virulence of the organism may have decreased. Experience would seem to demonstrate that if the pus is distinctly localized, and the symptoms on the decrease, it is, perhaps, the safer plan to delay the operation to a date when the difficulty of removing the appendix and the danger of infecting the general peritoneal cavity would be less. Our cases require a more minute study before such a conclusion can be demonstrated.

Acute Appendicitis—No Operation—Recovery.—In the cases admitted within forty-eight hours with acute symptoms, if on account of the clinical picture, operation has been delayed, we have always observed a falling leucocytosis. These patients have recovered, and at a later operation the appendix is found to be the seat of a diffuse inflammation, but there has been no evidence of pus outside the appendix. In one case admitted sixteen hours after the beginning of the attack the leucocytes fell in ten hours from 17,000 to 13,000, and in twenty-four hours to 11,000, associated with the disappearance of the symptoms. With one exception the highest first leucocyte-count in this group has been 17,000, falling in a few hours to 12,000, 9000, or even lower. A patient admitted twenty hours after the beginning of the acute attack had a leucocytosis of 22,000. The clinical symptoms, however,were not very marked. The patient was observed eight

hours. During this period the leucocytes fell to 16,000, and the local symptoms practically disappeared. Within the next twenty-four hours the leucocytes were 11,000, then 8000, 7000, then 6000. Although this patient with a leucocytosis of 22,000 at the end of twenty hours recovered, and there is every reason to believe that the inflammatory condition about the appendix subsided, nevertheless it is an exception to the general rule, and it would be safer, I believe, to operate in those cases of acute appendicitis observed within the first forty-eight hours with a leucocytosis of 20,000.

Acute Diffuse Appendicitis — Operation — Recovery. — Eleven cases. The leucocyte-counts in this group of cases do not differ much from those in the group of acute appendicitis which were not operated on until after the end of the acute attack, and, of course, it is a question whether all of these cases might have recovered from this attack without operation. It is to be noted that in one case observed in the hospital the leucocytes rose from 8000 to 18,000, and a second from 13,000 to 17,000. In *three cases* there was a fall in the leucocytes from 10,000 to 7000, from 11,000 to 9000, and from 14,000 to 10,000. In two cases observed at the end of two days and five days it was a question whether the patient was getting over the attack or not, but it was considered wiser to operate. A simple diffuse appendix was found. In the third, admitted twenty hours after the beginning of the attack and observed four hours, the patient clinically was distinctly getting worse; the leucocytes had fallen from 10,000 to 7000. The only high leucocyte-count in this group of cases was 25,000. This patient was seen thirty-six hours after the beginning of the attack, and clinically the attack seemed to be subsiding, but on account of the high leucocytosis it was considered best to operate. In this case the exudate about the thickened appendix was very excessive, and it is a question whether, if operation had been delayed, an abscess would not have developed.

The following two cases are reported in detail, the first because the patient was observed in the hospital from the beginning, and represents the typical rise in the leucocytes from 8000 to 18,000 in thirty-six hours, associated with an acute diffuse appendicitis. It cannot be stated in this case whether the patient would not have recovered from this attack, but the rise in the leucocytes was a distinct aid in the early recognition of the disease, which was associated with but slight local symptoms.

The second case is reported in detail, because it represents the rare exception of a low and falling leucocytosis associated with a distinct increase in the local symptoms, in which case the operation was indicated chiefly on account of the increasing local signs, although a careful observation indicated a falling and a low leucocytosis.

Case I. The patient, a girl, aged seven years, was admitted to the hospital with a rather indefinite history of previous attacks of pain and the history of pinworms in the stools. When first

admitted and observed for seven days there were no symptoms. Suddenly, one night, she began to complain of abdominal colic, which, in a few hours, localized itself in the right iliac fossa; in six hours the leucocytes were 8000; ten hours, 11,000; twenty-four hours, 17,000; thirty-six hours, 18,000. During this time the temperature rose from 98° to 100°; no nausea or vomiting. The local symptoms consisted only of slight muscle spasm and tenderness in the right iliac fossa. The slight local abdominal symptoms, combined with the quite high leucocytosis, were considered sufficient to indicate an early operation. The appendix was free, but thickened by diffuse inflammation; the lumen of the appendix filled with small pinworms.

Case II. A colored man, aged about twenty years, entered the hospital with a history of diarrhea and colic of one week's duration, and of local symptoms; pain in the right iliac fossa, suggesting appendicitis of twenty-four hours' duration. The first examination, temperature 104.2°, pulse 99, respiration 30. The patient's expression was one of stupor; tongue coated, but moist; leucocytes 10,000. The abdominal symptoms were so slight that the possibility of typhoid fever was considered, and a Widal test made, which was suggestive, but not positive. I saw the patient four hours later. At this time leucocytes had fallen to 7000, and the temperature to 102°; but, on examination, the tenderness and muscle spasm in the right iliac fossa had slightly increased, and there was a distinct area of dullness in the right flank, which suggested encapsulated fluid. At the operation a diffusely thickened and inflamed appendix was found covered with a little fresh exudate, and there was some free, cloudy, sterile fluid in the abdominal cavity. The chief collection was retro-cecal where the appendix was situated. After the operation the patient continued to have intermittent fever for a week, the cause of which we could not make out; there were no malarial organisms; the Widal reaction was not positive, and there was no leucocytosis. He made an uninterrupted recovery.

Gangrenous Appendicitis—Operation—Recovery.—In this group of cases, as a rule, the leucocytosis is higher and rises more rapidly, and in three instances it has been of the greatest importance in the early recognition of a grave inflammatory condition of the appendix, which, without doubt, would have led to general peritonitis and death if early operation had not been instituted. In one case the rapid rise in the leucocytes was practically the only clinical evidence of a grave abdominal condition. The patient, a boy, suffered from an attack of pain and nausea, and vomiting followed a few hours after taking a good deal of indigestible food. When the stomach relieved itself there was no further pain and no further abdominal symptoms. After twenty-four hours the leucocytes were 17,000. A leucocytosis of 17,000 in a patient a number of hours after taking food would make one suspicious of an inflammatory lesion. In thirty hours

the leucocytes were 17,000, and in thirty-six hours 35,000. The highest temperature was 100°. There were practically no abdominal symptoms, except the history of a short attack of colic and vomiting following indigestible food. Because of this rapid rise and the high leucocyte-count (35,000), it was considered safer to explore the abdomen. A gangrenous appendix with beginning purulent pelvic peritonitis was found. A second and almost similar case was observed when the leucocytes rose from 13,000 to 24,000 in twenty hours after the beginning of the first colicky pain, the first count being fourteen hours after the beginning of the pain. In this case there were, in addition, marked clinical signs of appendicitis. In the third case, with very slight local signs, the leucocytes rose rapidly from 13,000 to 23,000 in twenty hours (first count sixteen hours).

These three cases of gangrenous appendicitis I report in detail because they demonstrate the great diagnostic importance of the leucocyte-count:

Case I, observed by Dr. Thomas R. Brown in this city, communicated to me personally, is perhaps the most important. The patient, a boy, aged eleven years, indulged freely one Saturday night about 8 o'clock in strawberry ice cream and soda water; at 4 o'clock the next morning he was awakened with severe epigastric colic, nausea, and vomiting. The patient was seen by Dr. Brown at 8 A. M. (four hours); temperature 98°, pulse 76. He was given a sedlitz powder and powders of subnitrate of bismuth. The abdominal examination was negative. He was seen again at 10 A. M. (six hours); no change in the symptoms; no nausea or vomiting. At 6 P. M. (twelve hours) the temperature was 98.8°, pulse 86. There had been a stool; the urine was voided without pain; he was apparently very comfortable, and complained of no pain; abdominal palpation was negative; he looked, however, a little languid. There was nothing in the clinical picture to suggest that the condition was anything more than that to be explained by indigestion. On Monday morning at 8 o'clock (twenty-eight hours after the attack of colic) his temperature was 99.4°, pulse 95. He had passed a comfortable night; no nausea or vomiting; no abdominal symptoms, but he looked a little more depressed. The leucocyte-count at this time was 17,000. (A leucocytosis twenty-eight hours after an attack of abdominal colic in a patient taking practically no food is an indication of some inflammatory condition.) At 11 o'clock the leucocyte-count was 17,500, temperature 100°, pulse 100, but no abdominal signs. At 4 o'clock (thirty-six hours after the beginning of the colic) the leucocyte-count was 35,000, temperature 100.6°, pulse 100. For the first time in the right iliac fossa there seemed to be a little swelling; no marked muscle spasm or tenderness. He did not complain of pain when he voided urine. This rapid and high rise in leucocytes, even without abdominal symptoms, but following abdominal colic, was considered by Dr. Brown, his

physician, and Dr. Finney, the consulting surgeon, a sufficient indication for exploration of the abdomen. On opening the abdomen an appendix eight inches in length and extending into the pelvis was found. The appendix was gangrenous for at least two-thirds of its length, and perforated at its tip; no adhesion, and no localization. The pelvis was filled with cloudy fluid; the intestines in the pelvis and right iliac fossa were injected, covered with a little fibrous exudate and cloudy fluid. Cultures were not taken. The patient recovered.

In this case the rise in leucocytes was practically the only indication for operation. There were no previous attacks of appendicitis, and the only clinical manifestation pointing to the appendix was the onset of the abdominal colic associated with nausea and vomiting.

Case II, recently observed by Dr. Mitchell and myself, resembles Dr. Brown's observation in the rapid rise in the leucocytes, but was associated in this instance with distinct abdominal symptoms. The patient, a boy, aged eighteen years, who also filled his stomach one Saturday night with indigestible food, experienced about six hours later intense abdominal colic, which was worse on the right side, followed in four hours by excessive nausea and vomiting. The abdominal colic continued all night, and when he voided urine it gave him some pain. He walked to the hospital, and was first examined about 1 P. M.; temperature 101°, leucocytes 13,000. Both recti muscles were held tense, but the muscle rigidity was more marked on the right side. The clinical picture at this time was sufficient, without the leucocyte-count, to make a diagnosis of pelvic appendicitis. His parents were sent for at once, but refused operation until 6 P. M., so that he was not operated on until twenty hours after the beginning of the attack. He was first seen at fourteen hours. In fifteen hours the temperature was 102°, pulse 112, respiration 28, leucocytes 15,600; in sixteen hours, leucocytes 16,000; in eighteen hours, temperature 104°, pulse 112, respiration 28, leucocytes 19,000; in twenty hours, temperature 103.4°, pulse 116, respiration 20, leucocytes 24,800. There had been no nausea or vomiting since the first attack at 1 o'clock the night before. The muscle rigidity and tenderness increased. At the operation a very long appendix was found situated in the pelvis, its distal being two-thirds gangrenous; no perforation. The pelvis and the lower portion of the abdominal cavity were filled with cloudy fluid. The intestines in the pelvis were injected. Cultures: bacilli, but no streptococci. The patient made an uninterrupted recovery.

Case III was observed in the hospital. The patient, one of the hospital residents, aged twenty-eight years, was taken with abdominal colic and slight diarrhea, a condition not uncommon with the residents during the hot summer months. At the end of sixteen hours the temperature was 101°, leucocytes 13,000. There was no distinct muscle spasm, but a slight area of tender-

ness on deep palpation at the outer border of the right rectus muscle; no nausea or vomiting. Also about this time micturition gave a little pain. At the end of twenty hours the temperature was 101.6°, leucocytes 23,000. The patient vomited for the first time. The patient was immediately prepared for operation, which was performed twenty-two hours after the beginning of the attack. The temperature just before the operation was 104.2°, pulse 80, and for the first time during the preparation for operation muscle spasm was noted. At the operation by Dr. Halsted the entire appendix was gangrenous and situated in the pelvis; in its center over one hard concretion the wall was very thin; the pelvis was filled with cloudy fluid containing the bacillus coli communis. The patient recovered.

Acute Appendicitis Distended with Pus—Operation—Recovery.—There are five cases in this group. In all the localized symptoms were sufficient to indicate immediate operation, due, perhaps, to the great tension of the thickened and inflamed appendix, which was distended with pus, but not yet gangrenous. Such a condition is one of great danger, because an appendix distended with purulent material containing, without much doubt, bacteria of great virulence, might perforate at any moment and discharge into an unprotected peritoneal cavity. Fortunately, in these five cases the operation was performed in time. Two cases were admitted twenty-four hours after the attack. In one the leucocytes was 15,000; in the other, 19,000. The local signs in the patient in which the leucocyte-count was only 15,000 was less marked, the pus in the appendix was of smaller quantity, the walls of the appendix thickened and under less tension. What would have happened if observed a number of hours longer is difficult to tell. Two cases were admitted forty-eight hours after the beginning of the attack, one with a leucocyte-count of 17,000, with a second count in two hours, just before the operation, of 20,000; the other of 21,000, second count of 28,000. A third case, admitted on the second day, observed five hours, showed a rising leucocyte-count from 18,000 to 35,000. In these three cases the clinical picture was a marked one, and the appendix was not much thickened, and under great tension. In only one of these five cases was there a walling off of the appendix by peritoneal adhesion of exudate, and it seems fair to infer that a perforation would have been followed by a very virulent and perhaps fatal peritonitis.

Appendicitis—General Peritonitis—Operation.—The correct interpretation of the leucocyte-count in this group of cases is difficult, because in the majority of cases it is hard to estimate the duration of the peritonitis. Observation seems to demonstrate that in the early hours of peritonitis there is a rapid rise in the leucocytes, which, however, soon falls. These cases have been grouped according to the duration of the attack, and not to the approximate duration of the peritonitis. Five cases have been

observed, in each of which the beginning of the attack was within forty-eight hours. Three cases recovered—one, operated on sixteen hours after the beginning of the attack, with a lecocytosis of 14,000; one, twenty-four hours, with a leucocytosis of 32,000; and one, thirty-six hours, with a leucocytosis of 36,000. In these three cases there were distinct local symptoms, but slight general abdominal symptoms. There was no distension of the intestine; the exudate was chiefly purulent; in the exudate in the general peritoneal cavity only the colon bacilli were found, and no streptococci. In one case observed forty-eight hours after the beginning of the attack, and operated on at once, the leucocyte-count was 25,000. The general abdominal symptoms masked the local symptoms, the patient was very ill, the intestines were distended, streptococci were present, and the patient died. One patient was observed in the hospital. Twenty hours after the beginning of slight abdominal colic, localized in the right iliac fossa, the leucocytes were 8000; six hours later, or thirty-six hours after the beginning of the attack, the leucocytes were 20,000. Clinically, the patient was not very ill, but on account of the rise of the leucocytes from 8000 to 20,000, operation was performed. The appendix was perforated and surrounded by a few drachms of purulent material. This pus was not walled off by adhesions; the general peritoneum was slightly injected; it appeared as if there was beginning general peritonitis. After the operation the leucocytes continued to rise for twelve hours up to 26,000; then within the next twelve hours fell to 11,000, the patient dying with a clinical picture of peritonitis, which was found at autopsy. In this case the streptococci were present. In five cases admitted three days after the onset of the symptoms, all showing the clinical picture of peritonitis, the leucocyte-counts in four were 11,000, 11,000, 13,000, and 14,000. These four cases were fatal. The fifth case, whose leucocyte-count was highest (17,000), recovered. The cultures from the peritoneal cavity in this case showed bacillus coli communis. These counts and others not given in this short paper seem to demonstrate that within forty-eight hours after the beginning of an attack a very high leucocytosis is suggestive—but not at all positive—of beginning peritonitis, and that the leucocyte-count does not help us with regard to prognosis. After the second day, in cases in which the peritonitis has been present longer, we have never observed a recovery with a low leucocyte-count. If the leucocytosis still remains high at this period the prognosis seems better for the ultimate recovery after operation.

Appendicitis—Abscess.—So far, in our observations, we have but two cases of abscess with leucocyte-counts observed within forty-eight hours after the beginning of the attack. In one the leucocytosis was 18,000, and there were distinct local signs, although, on account of the muscle spasm, it was impossible to make out a collection of pus. This patient was operated on

twenty-four hours after the beginning of the attack. A small abscess was found about the perforated appendix; the collection of pus was well walled off, but there was beginning peritonitis demonstrated by cloudy sterile fluid and fibrinous exudate on the intestines about the abscess. The patient recovered. The low count—11,000—twenty-four hours after the onset, is hard to explain. This patient had marked local signs of inflammation, but no definite tumor. At operation there was evidence that there had been recurrent attacks; the adhesions about the appendix were very firm, but the collection of pus was very small.

Between two and seven days there has been twenty-seven cases of appendicitis with abscess. In six cases the leucocyte-counts have been between 11,000 and 12,000; the others higher, the majority between 18,000 and 30,000. The interpretation of the leucocytes at this stage of the disease, especially between the third and seventh day, is a difficult one. A high leucocytosis after a second day of the disease, in the majority of instances, is an indication of grangrene, pus in the appendix, abscess, or peritonitis. A low leucocytosis has been associated with an acute attack, getting well or completely over, but in a few instances it has been associated with abscess and peritonitis. In these six cases of abscess, with leucocyte-counts between 11,000 and 12,000, four were distinctly getting well, the abscess well walled off; in two the patients were very ill, and there was evidence of beginning peritonitis; one died.

The interpretation of the leucocytosis in the cases of appendicular abscess between one week and one month has already been discussed with the group of cases of chronic and subacute appendicitis.

Conclusions in Regard to the Interpretation of the White-Blood Count in Appendicitis.—Although there are exceptions to the rule, a rising leucocytosis is an indication for an operation. In the majority of instances, if the leucocytes reach 18,000 before forty-eight hours, it has been an indication of an advanced pathological lesion. For example, excessive exudate with a diffuse appendicitis, gangrene, or an appendix distended with pus, abscess, or beginning peritonitis. When the leucocytes have been below 18,000, or, when counted a number of times, have fallen in number, the patients have recovered without operation. With a fall in the leucocytes there has been associated a rapid cessation of the local symptoms, or, if operated on, the appendix has been the seat of but slight diffuse inflammation.

Observed later in the attack, especially after the fourth day, a high leucocytosis has usually been associated with localized abscess or peritonitis. It is to be remembered, however, that it is possible to have an abscess with a low leucocyte-count. Out of the fifty-six cases of appendicitis with abscess fourteen have had a leucocyte-count between 6000 and 12,000; the remainder

have been higher, the majority over 20,000; the usual count is between 20,000 and 25,000, one count 30,000, one 60,000.

It is also to be remembered that with peritonitis there may be a very low leucocyte-count. This, so far in our observations, has been associated with an extreme septic condition of the patient, and in every case death has followed. These low leucocyte-counts have been observed in patients admitted to the hospital three days or longer after the beginning of the attack, so it is difficult to ascertain the exact duration of the peritonitis. Observations are sufficient to indicate that in the majority of instances beginning peritonitis is associated with the rise in the leucocytes, which, however, rapidly falls as the patient becomes more septic.

In a general way we may feel that a patient admitted with symptoms of peritonitis, with a high leucocyte-count, has better chance for recovery. The leucocyte-count simply indicates, however, a short duration of the peritonitis. The positive prognosis depends more upon the bacteriological findings than upon the leucocytosis. So far in our observations in the four cases which recovered the cultures demonstratel the presence of colon bacilli and other bacilli, but no streptococci.

Before more definite conclusions can be made in regard to the interpretation of leucocytosis in appendicitis we must have more observations, especially observations of cases from the beginning of the attack, where we have a number of counts. There are sufficient observations, however, to make a careful surgeon insist upon a blood-count in every case of acute abdominal lesion, and during the first forty-eight hours to have counts made every four or six hours. A rapid rise in the leucocytes, especially above 18,000, should, in my opinion, be a sufficient indication for exploration, even in those cases in which the local symptoms are very slight. In the few exceptions in which the local symptoms are sufficiently distinct to indicate an operation a low leucocytosis should not influence as to delay operation.

Leucocytosis in Intestinal Obstruction.—Dr. Harvey Cushing, I think, was the first in this country to call attention to the leucocytosis associated with intestinal obstruction. I referred to this in *Johns Hopkins Hospital Reports*, Vol. VII, 1898, p. 332, in relation to leucocytosis in strangulated hernia. Since Cushing's first count in August, 1898, the leucocytes have been estimated in almost every case of intestinal obstruction, and in this group of cases the increase in the number of white cells associated even with very slight symptoms of intestinal obstruction has been found to be of great value in the early recognition of the obstruction, frequently before the clinical signs were positive. We have a large group of cases which have demonstrated that within twelve hours after the beginning of the obstruction the leucocyte-count may rise to 20,000. Within the first twelve to twenty-four hours a few observations would demonstrate that if the leucocyte-count rises above 25,000 or 30,000 the probabili-

ties are that one will find gangrene of the obstructed loop or beginning peritonitis. If observed on the second or third day after the beginning of the symptoms it is difficult to make a differential diagnosis with regard to gangrene or peritonitis. After the third day, in cases in which there is no gangrene and no peritonitis, or in which the auto-intoxication is not yet very grave, the leucocytes still remain high—15,000 to 23,000, according to the degree of obstruction: complete, higher; partial, lower. In the presence of gangrene, peritonitis or grave auto-infection, the leucocytes begin to fall. If the patient is admitted after the third or fourth day with a history of intestinal obstruction, and still has a high leucocyte-count, the prognosis is good for operation. If the count is low, and especially if it is below 10,000, the probabilities are that you will find at operation extensive gangrene or peritonitis, or the patient will be so depressed by the auto-intoxication that reaction does not follow relief of the obstruction.

In five cases of strangulated hernia admitted within twelve hours after the rupture had become irreducible the leucocyte-counts were 10,000, 15,000, 18,000, and in two cases 20,000. In all of these cases the sac contained congested intestine. All the cases recovered after operation. In the one in which the leucocytosis was 20,000 we were able to reduce the rupture with ice bags, the leucocytes falling in three hours to 18,000, and in twenty-four hours to 12,000. In one case the patient left home with an irreducible hernia of some hours' duration, but during the journey of some fourteen hours on a railroad train the rupture became reduced, and on admission the leucocyte-count was but 6000, which seemed to exclude the possibility of reduction *en bloc* of the rupture. The patient recovered, and some days later was operated on for the reducible hernia.

An observation of my own demonstrates the importance of even a slight rise in the leucocytes as an aid to early recognition of obstruction. The patient had previously been operated on in the hospital for acute appendicitis with abscess, and the wound had been drained. This clinical history, of course, pointed to the possibility of obstruction from adhesions. Some four months after this operation he came to the hospital complaining of abdominal pain of six hours' duration in the region of the scar. There had been no nausea or vomiting, and abdominal examination was negative. The pain, however, was quite severe, and was slightly remittent, as if coincident with peristaltic action, although such intestinal movements could not be made out during a long and careful examination. The leucocyte-count in four hours rose to 12,000. There was no fever, and the patient had not taken any food.

In view of the history and rise of the leucocytes an exploratory operation was done. It was found that the omentum and cecum were adherent to the old wound, and to the cecum was an adherent knuckle of small intestine, producing a partial ob-

struction. The ileum from this point of obstruction for a distance of one foot was collapsed; in the other direction slightly distended. The operation required some time in order to separate all the adhesions, and it was fortunate that an early exploration was done, when the patient was in such a good condition that prolonged anesthesia was not contraindicated.

THE LEUCOCYTE-COUNTS IN CHOLECYSTITIS.

Acute Cholecystitis.—In seven cases the leucocyte-counts have varied from 20,000 to 26,000. Two cases admitted at the end of the attack, with no symptoms, had leucocyte-counts of 8000. The rise in the leucocytes associated with symptoms of acute cholecystitis does not seem to demand the same imperative early operation as similar counts associated with symptoms of appendicitis, because here the danger of peritonitis or abscess is a very distant one. We have observed two cases from the very onset in the hospital. One case was of special interest because the cholecystitis occurred during convalenscence from typhoid fever.

The patient, a woman, aged forty-nine years, was admitted to the medical side, apparently at about the tenth day of typhoid fever; the leucocyte-count was 6000. During the forty-two days she had a more or less uninterrupted typical typhoid attack, with no rise in leucocytes. On this day (the forty-second) at 4 o'clock in the morning, the temperature, which had been normal for some days, rose to 101.7°, and in four hours to 105.2°. The patient complained of pain in the abdomen and region of the gall-bladder. In this area there was distinct muscle spasm, but, on account of muscle spasm, no tumor could be made out; respiration 56, pulse 128; the leucocytes had risen to 16,500; in three hours to 22,000. The operation was performed at this time. Five hours after the beginning of the attack the gall-bladder contained gallstones and slightly purulent bile; cultures, the bacilli coli communis.

The second case was rather a feeble man, aged sixty-five years, who on November 3, 1899, under ether anesthesia had been operated on for a very huge lipoma of the thigh; following the operation pneumonia associated with a high leucocytosis. For some days the temperature had been normal, with no leucocytosis. On the 15th, in the morning, he complained of abdominal pain in the gall-bladder region, slight nausea, and vomiting. Examination of the abdomen was negative. This attack of pain lasted a few hours and then disappeared; temperature 100°, pulse 99. During the afternoon he had slight attacks of pain. The next morning, twenty-four hours after the first gall-bladder colic, associated with pain, the temperature rose to 102°, in a few hours to 103°; leucocytes 13,000. In the gall-bladder area there was distinct tenderness and muscle spasm, and on deep palpation one felt a tumor descending on inspiration. The leucocytes rose from 13,000 to 22,000 in six hours. There were no signs of pneumonia or of malaria; clinically the picture was that of acute cholecystitis. The operation was performed under cocaine anes-

thesia. The gall-bladder was distended and contained purulent material and a few gallstones. The cultures showed bacilli coli communis and staphylococcus pyogenus aureus. The patient recovered.

DISCUSSION.

Dr. B. Farquhar Curtis of New York, in discussing these papers, said: I am surprised to learn by the reports from Boston of the absence of leucocytosis after operations done under ether anesthesia. At St. Luke's Hospital we have made a series of these observations, and while it is true they have been done by the resident staff, yet they have been very consistent in their results. I feel sure they are not lacking in accuracy, and in the majority of cases we have found a marked leucocytosis which has no reference to the length of the anesthesia, to the amount of the drug, or to the severity of the operation. Lately I have been interested in three or four operations done under intraspinal anesthesia, and in those operations leucocyte-counts were made at intervals of from one to two hours. A progressive increase was found corresponding to that found under general anesthesia. In the latter case we have both the effect of the drug itself upon the blood and of the other inhalation upon the lung, while in the local anesthesia we have simply the effect of the cocaine and the injection of fluid into the spinal canal, but the increase in leucocytes was noted in every case for at least five hours. It then remained stationary, sometimes reaching as high as 18,000, and came down slowly during the next forty-eight hours. There was no infection in any of these cases, but in one of them, although a small part of the flap sloughed, the leucocyte-count did not remain high. I believe that operative leucocytosis may be assumed to be a fixed factor, and it is therefore impossible to use the leucocyte-count in determining the presence or absence of infection in the first two days after operation. I feel that the gentleman from Baltimore ranks the value of the leucocyte-count too high. I think it is of equal value with the temperature and pulse, but is not higher. We meet too many contradictory cases. I recall the case of a man, aged about forty-five years, who was admitted to my wards at night with symptoms of appendicitis. The leucocyte-count was only 7500, although the temperature was high (102°), and I postponed operation until the next day. By that time the temperature had dropped to normal, and the tenderness, which was very acute the night before, had considerably lessened; but four days later I obtained consent to do an exploratory operation. A movable mass about the size of the end of the thumb was found in the region of the appendix, and there was a limited collection of pus, *i. e.*, a retroperitoneal abscess. These conditions were difficult of explanation, as there was an absence of leucocytosis, although the patient was not thoroughly septic, and, although the collection was walled off, the man's high temperature showed absorption of toxins.

Current Literature.

MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

Cancer Distribution and Statistics in Buffalo for the Period 1880-99, with Special Reference to the Parasitic Theory. Irving Phillips Lyon, M.D. *American Journal of the Medical Sciences,* June, 1901.

In a most interesting article containing not only Lyon's own careful observations on this subject, but also the observations of others along these same lines, and furnishing a series of most interesting tables and charts in this connection both as regards the rate, the race distribution, the census reports, the age distribution, the sex distribution, and the anatomical distribution, Lyon summarizes the principal results and facts of his study as follows:

1. The house distribution of cancer on the map shows an area of marked concentration in the German wards. No other relation than that of race can be determined to exist between this area of concentration and local conditions.

2. That there is a real relation between this local concentration and race (German) is further indicated by the race table, which shows that cancer is many times more frequent among the foreign, and particularly the Germans, than the native-born. The latter fact is also verified by the United States census for twenty-eight large cities. The cancer-rate of foreigners in general in Buffalo was 4.59 times the rate for the native-born, and the corresponding rate for Germans (and Poles) was 4.81.

3. The Germans (and Poles) were further specially distinguished from other classes by the high rate (43.8 per cent.) of involvement of the stomach—2.08 times the rate (21 per cent.) shown by the native-born. Cancer of the stomach, therefore, was ten times more frequent in the Germans (and Poles) than in the native-born in Buffalo for equal numbers of each. Such high figures seem hard to explain on the embryonic theory, and tend to support the parasitic theory of cancer by supposing that the peculiar diet of the Germans is more liable to contamination with the parasite of cancer than the more ordinary diet of other classes. Cancer of the uterus and breast in Germans (and Poles) was correspondingly low, being hardly more than half as frequent as in the native-born. This fact seems to be a further argument for the parasitic as opposed to the embryonic theory, considering the facts that the birth-rate and the habit of nursing at the breast (conditions predisposing to degeneration of these organs) are greater among German than native-born women.

4. The ratio of males to females, the latter taken as 100, was 93 for Germans (and Poles), and from 51 (native-born) to 61 (all

Europeans except Germans and Poles) for all other races and classes. The high German male rate is probably directly dependent upon the high rate of cancer of the stomach (especially in males) and the low rate of cancer of the uterus and breast (females) found to characterize the German as opposed to other races.

For all classes the ratio of males to females was found to have risen during the twenty years covered by the investigation. This rise was very slight for the native-born.

5. An increase in the general cancer-rate from 32 to 53 per 100,000 of population (65 per cent.) took place from 1880 to 1899. A similar increase has been shown in all countries. This increase is partly real, and not entirely apparent. The rate of increase is shown to depend, in part at least, upon changes in the proportion of the foreign-born, because the cancer-rate in the foreign-born is so much higher than in the native-born.

* * *

The Comparative Pathology of the Jews. Maurice Fishberg. *New York Medical Journal*, March 30 and April 6, 1901.

SUMMARY.

I. The death-rates of the Jews, at all ages, are relatively and absolutely lower than those of the people among whom they live.

II. The marriage-rates and birth-rates of the Jews are smaller than those of the Christians. The Jews increase in number more rapidly than non-Jews, because they lose by death relatively fewer children, and bring more to maturity.

III. The Jews die less often than their neighbors from many of the infectious diseases, particularly epidemic cholera, smallpox, and tuberculosis.

IV. Syphilis and alcoholism, and also diseases due in great measure to these particular poisons, are comparatively rare among the Jews.

V. Diabetes is very frequent among the Jews. Most observers have recorded that almost 25 per cent. of all the cases of diabetes occur in Jews.

VI. All the functional neuroses and psychoses, particularly neurasthenia and hysteria, occur more frequently among Jews than non-Jews, while all the organic nervous diseases, as tabes, general paralysis, etc., are less frequent, commensurately with the infrequency of syphilis and alcoholism, among them. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is met with among Jews between two and five times more often than among Christians.

VII. Blindness, color-blindness, trachoma and glaucoma, and also varicose veins, particularly hemorrhoids and hernias, are very frequent among Jews.

VIII. All these peculiarities in the comparative pathology of the Jews are not due to any ethnic, "biostatic" or racial char-

acteristics of a purely anatomical or physiological nature in relation to non-Jews. They have their origin in the past history of the Jews, in their habits of life, and in the fact that syphilis and alcoholism have but rarely been seen among them.

IX. Where the Jew is commingling with his Christian neighbors, and adopts their customs and habits of life, he sooner or later loses his "racial characteristics," and his comparative pathology presents no special peculiarities.

* * *

The Clinical Value of Tracheal Tugging as a Sign of Aneurism or Mediastinal Tumor. George W. Norris. *American Medicine*, April 20, 1901.

Norris reports in this connection an interesting case seen by him at the Pennsylvania Hospital. The patient, a negro, aged forty-two, was admitted to the medical ward with anasarca, ascites, and intense dyspnea. He had used alcohol largely, but had been in good health up to five weeks previously, when swelling of the feet and shortness of breath began. The physical examination showed sclerotic arteries, and the left pulse perceptibly smaller than the right, though synchronous. The lungs were markedly congested; cardiac impulse was feeble and diffuse; there was felt in the sixth interspace in the anterior axillary line a distinct precordial thrill, while at the apex a soft systolic murmur replaced the first sound. In the aortic area both systolic and diastolic murmurs were heard, the former transmitted into the vessels of the neck, the latter down the sternum. Distinct, forcible tracheal tugging was felt synchronous with the cardiac rhythm. The patient died suddenly six days after admission. The autopsy showed a markedly hypertrophied and dilated heart, moderate thickening of the aortic valves, a slightly atheromatous aorta, but no aneurism of any of the valves, or any other abnormity of the mediastinal tissues. This shows that too great reliance should not be put on tracheal tugging in the diagnosis of aneurism.

* * *

The Treatment of Aneurism by Gelatine Injections. Geraldini. *Gaz. degli Osped.*, February, 1901.

Geraldini reports forty cases of aortic aneurism in which this method was used. In the first case, after forty-five injections, the tumor ceased to pulsate, and diminished in prominence. In the second case sixty injections were given, and large benefit was claimed, although injections had to be stopped for several days, due to the development of albuminuria, while in the other two cases marked improvement was also described. A large number of cases treated by this method have been reported in the medical literature, but none of them have so far proven absolutely conclusive of its worth.

The Field for Ethyl Chloride Narcosis. Martin W. Ware, M.D. *Medical Record*, April 6, 1901.

After considering the literature on the subject, and his own experience in both the major and minor operations, Ware comes to the following conclusions regarding this anesthetic: It is as safe, statistically, as any of the others; it induces a very rapid narcosis and equally as quick awakening, and is devoid of after-effects. Against its chief competitor, nitrous oxide, be it said, that it is cheaper, does away with any special apparatus, is portable, and its market is so widespread already as to place the drug at hand for the vast majority of physicians and surgeons.

Indications for its use rise in all minor work in which the exact limits of operative procedure can be predetermined. It has proved efficient for curettage and obstetrical anesthesia, expression of trachoma, reduction of fractures, and as a preliminary to narcosis with other agents. In the latter direction the experiences of Dr. J. T. Tuttle amply testify. Likewise the beneficent effect of the mixture employed by Dr. Willy Meyer is in no small measure due to the ethyl chloride it contains. Dr. Ware concludes, therefore, that its future is secure, and that it should take a place among the commonly employed anesthetics.

* * *

The Bactericidal Action of Bile. Talma. *Zeitschrift für klin. Medicin*, 1901, Vol. XLII, Parts 5 and 6.

Talma, after consideration of previous experiments performed to determine this point by Vallée, Sieber, Nencki, Fraser, Gilbert, Mosse and others, gives the results of a careful series of experiments performed by himself in which the colon bacillus and diphtheria bacillus, and the typhoid bacillus were tested in this connection. His conclusions are: First, the bile contains a substance which inhibits the growth of colon bacilli, typhoid bacilli, and diphtheria bacilli in most cases. Second, the sensitiveness of the different varieties of bacilli is very variable; virulence especially is not synonymous with tendency to infect the gall-bladder and gall-ducts. Third, the bactericidal property of the bile varies at different times and in different animals. The number of bacteria which succeed in reaching the biliary system is of great influence upon their subsequent fate. The epithelium of the gall-ducts and the liver-cells offer a strong resistance to the invading microbes, especially the diphtheria bacilli.

* * *

Observations Regarding Suppuration in Patients with Typhoid Fever. Prochaska. *Deutsche medicin. Wochenschrift*, 1901, No. 9.

In the clinic of the University Hospital at Zürich, among the 317 typhoid patients treated during the last three years, there were twenty-two cases of metastatic suppuration. Especially frequently seen were the deep muscle abscesses, while superficial skin ab-

scesses and periosteal suppurations were observed less frequently. The abscesses were frequently multiple, while in only one case sepsis, ending in death, occurred. The first signs in suppuration were usually made out after the patient's temperature had become normal. The increase of the body temperature after this complication was found in only a few cases. Among the cases were four of purulent otitis, with perforation of the ear drum. In the majority of cases staphylococci were found, in all but six cases in pure culture. Staphylococci and streptococci were found together in two cases, while in two cases streptococci were present in pure culture. In one case of otitis media virulent diphtheria bacilli were isolated, while only in a single case was the typhoid bacillus itself the cause of the suppuration.

* * *

The Treatment of Sciatica, Arthritis Deformans, and Scleroderma by Superheated Dry Air. Neumann. *Lancet*, 1901, March 30.

In this article Neumann describes the results of the Tallerman method of applying superheated dry air in the treatment of these diseases. After considering the methods of application and the degree of temperature which is obtained, he gives his results derived from the study of a long series of cases treated by this method. He believes, unlike many of the English investigators, that in most cases improvement is slow and gradual, while especially insisting upon the absence of ill-effects on the local seat of mischief or on the whole system. He states, in particular, that he has never been able to discover that it causes any wasting or has a lowering effect on the general strength; on the contrary, in precisely the most successful and, at the same time, the severest cases the general health and appearance have notably improved through the relief from pain and the powerful stimulation of the circulation. In Germany the Tallerman apparatus has been installed for the public use at various curative resorts, and at one of these, Landesbad, Neumann has had ample opportunity of employing the treatment and studying the results. The indications for the treatment are chiefly rheumatic neuritis, chorea, gout, chronic rheumatism, rheumatic arthritis, stiff and swollen joints, sprains and ruptures of joints, fractures and inflammation, flat-foot, etc. In the course of the past year this treatment has been applied to seventy cases of sciatica and lumbago, thirty-five of arthritis deformans, as well as in numerous cases of other conditions mentioned. With the exception of three cases of sciatica and lumbago, one of ankylosis of the knee joint, two of arthritis deformans, two apparently of old fractures of the neck of the femur, and one case of inflamed flat-foot, and one of scleroderma, all the other cases were either substantially improved or completely cured. At the conclusion of his article, Neumann gives notes of a few of the cases so treated, including ten of sciatica, nine of arthritis deformans, one of scleroderma, and one of myxedema.

Experiments Upon the Causes of Death in Peritonitis Due to Perforation. Heineke. *Deutsche Archiv für klinische Medicin.* 1901, Vol. LXIX, 5th and 6th part.

These experiments are designed to answer the question why is the course of peritonitis different from the inflammations of other membranes, especially the pleura, what conditions bring about the rapid course of acute peritonitis, and what is the cause of the peritonic collapse which is so characteristic of this condition? Expressed briefly, the results of his experiments are:

First, the cause of death in perforation due to peritonitis in rabbits is a paralysis of the centers of the medulla oblongata, the vaso-motor center being first affected, and next the respiratory center.

Second, the circulation shows striking disturbances earlier than the respiration, but the respiration fails earlier than the circulation. Paralysis of the vaso-motor center is the cause of the circulatory disturbances, which is the most striking part of the phenomena presented. The heart does not share in the circulatory disturbances.

Third, the circulatory disturbance in peritonitis runs a course exactly analogous to that in infectious diseases.

Fourth, the paralysis of the nervous centers is due to the taking up of bacterial products from the peritoneum by the blood.

Fifth, the perforation of the intestines, as a rule, in rabbits presents about the same disturbances in circulation.

* * *

Appendicitis as a Sequela of Some General Diseases. Adrian. *Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie,* Vol. I, parts 4 and 5.

Numerous observations have been made, especially by French observers, to show that appendicitis may appear as a definite sequela to acute general diseases, and may be the expression of a general disease, localizing itself in the appendix. There are undoubted cases of appendicitis associated with acute tonsillitis and various joint affections. Thus, either an appendicitis may be a starting point for a typical attack of arthritic rheumatism, or, on the other hand, the appendicitis may be preceded by the joint symptoms which are to be ascribed to an affection of the tonsils. It thus appears that the lymph follicles, which are so richly developed in the appendix, furnish a medium as fitting for the deposition of bacteria as the joints. From the Strasburg Medical Clinic Adrian mentions seven cases especially worthy of attention, in which appendicitis was shown to have definitely followed influenza, with the discovery of the influenza bacilli in the contents of the abscesses. Adrian then performed a series of experiments on the rabbit's appendix, attempting to show that the appendix could be affected from the blood, and he concludes that the appendix must be regarded as an especial point of predilection for the localization of inflammatory processes. Thus follicular appendicitis must be regarded as an expression of a general infection, and does not seem to be due to any specific micro-organism.

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Wm. E. Huger, M.D.,

Baltimore.

Some Observations on Chronic Seminal Vesiculitis. Chute. *Boston Medical and Surgical Journal,* June 13, 1901.

Though disease of the seminal vesicles has been recognized for a number of years, it is only recently that men have come to appreciate its frequency and importance. The writers have recently seen a number of cases at their clinic, the Boston Dispensary, and feel that their observations may be of interest to others.

The disease undoubtedly occurs without urethral disease, but the writers have seen very few cases of that sort, and the present paper deals only with cases following urethritis. Artificially, the symptoms due to seminal vesiculitis may be divided into direct and reflex; as a rule, in the long-standing cases the reflex, and, on the whole, more characteristic symptoms, predominate.

Among the direct symptoms are feelings of vague discomfort in the rectum and perineum, which at times amount to actual pain; pain and discomfort on defecation; persistence of discharge of shreds, especially comma-shaped shreds, from the prostatic urethra. Another common symptom is the starting up, without any indiscretion on the part of the patient, of a urethral discharge which had nearly or quite stopped, nocturnal emissions streaked with blood, and the persistence of mucoid discharge from the urethra. The direct symptoms are for the most part urinary in character, and not particularly distinctive.

The reflex symptoms comprise all the symptoms more commonly ascribed to sexual neurasthenia. Pain at some definite point along the urethra may be complained of, while the endoscope shows no abnormality, or none sufficient to give such pain. The most characteristic symptoms are the occurrence of irregularities in the function of erection. In the early stages of the disease there is an increased sexual desire, while later, sexual apathy and impotence. Often erections due to this cause have quieted down soon after stripping the vesicles. The so-called neurasthenic symptoms, with irregularities of erection, are highly suggestive, almost pathognomonic, of this trouble.

For examination the patient should present himself with an empty rectum and a moderately full bladder; should stand with feet apart, and body bent well forward. The digital examination is made per rectum by means of the forefinger, while the fist of the other hand is pressed well up under the symphysis and crowds the viscera towards the examining finger. It is not at all uncommon to find a large prostate in a young man, and a small one in a man approaching old age.

Occasionally the vesicles cannot be plainly distinguished, and in these patients it is impossible to rule out disease unless, after carefully stripping the vesicles and ducts, one gets none of the detritus so characteristic of vesiculitis. Both vesicles and both ducts may be involved, but more commonly the disease is unilateral.

Combined with the diseased condition of the vesicles and ducts one finds various irregularities in contour and consistency of the prostate. Tenderness may be present. It is not uncommon to have the prostate appear to extend up to a point in the median line, which gives it somewhat the conventional heart-shape. This is probably due to exudate from the ducts, which fuses the structures together and makes it impossible to sharply define the true upper border.

Almost as characteristic of vesiculitis as the condition felt per rectum is the material gotten after massage. This may either drip from the meatus during the stripping process, or be voided in the urine. The material when it oozes from the meatus during massage is milky, and contains masses of various sizes. If we find on immediate examination that the spermatozoa are non-motile, this is almost, if not quite, pathognomonic of vesiculitis. On the other hand, the finding of non-motile spermatozoa in the detritus washed out by urine is not decisive, as the spermatozoa very soon lose their motility when in urine.

The urine voided after massage is usually more or less turbid, with a slightly opalescent tint, and in it there are often caseous-looking masses which fall to the bottom of the glass. The treatment which has given the writers the best results is massage of the vesicles, and ducts, and of the prostate as well. The method of massage is the same as that of the examination, except that the forefinger in the rectum is drawn firmly up along the vesicles on each side of the prostate, and this maneuver repeated again and again.

At the beginning of treatment the time of massage is very short, and at intervals of from four to five days; later the intervals are longer and the massage more thorough. In the greater number of cases the chronic prostatitis and the chronic posterior urethritis need no attention other than the prostatic massage. In some cases when the disease has been of long duration, and presumably accompanied with more or less round-cell infiltration in the submucous tissue of the deep urethra, dilating with Oberlaender's or Kollmann's dilator seems to have a beneficial effect. It apparently opens the mouths of the glands of the prostatic urethra and allows any solution to enter them freely. Hot rectal irrigations through a double-current tube have given great deal of benefit in some cases.

We have used the various balsamics in conjunction with massage, but with little real benefit. Tonics and hygiene have in this condition a distinct, though secondary, place.

The treatment which is of greatest benefit, and apparently curative, is the mechanical emptying of the diseased vesicles and ducts.

The writers here warn against the treatment of vesiculitis by regulating sexual intercourse. In atonic vesicles coition is, of course, out of the question, but had it been curative in those cases where the sexual appetite was stimulated the atonic condition would not have been reached. The failure of this treatment is due to the fact that the diseased vesicles do not empty themselves during intercourse.

The results obtained by this massage treatment have been admirable, both reflex and direct symptoms improving markedly. The more recent cases do best, but the younger patients, with a few exceptions, improve faster than those above forty years. For the older patients, especially for those having disease of long duration, massage will probably have to be used now and then, that they may be kept comfortable.

* * *

THE SELECTION AND STERILIZATION OF MURIATE OF COCAINE FOR SPINAL ANESTHESIA. Riley. *Medical Record,* August 10, 1901.

The writer undertook a series of experiments having for its object the proper preparation and keeping of the solution of muriate of cocaine.

Such questions as relate to the purity, stability, and sterility of the cocaine are easily solved, but that relating to its analgesic action is less easy and has taken time. In 200 cases of spinal anesthesia in which the cocaine used was prepared in the manner to be described the dose never exceeded three-tenths of a grain, analgesia was secured in from four to five minutes, and lasted from one and one-half to three hours.

Unfortunately, cocaine as furnished by the manufacturing chemists varies in strength and purity. Even the toxic symptoms attributed to cocaine poisoning are often due to some impurity in the salt. In comparing the several brands the variation in the total cocaine present will be from 90 to 100 per cent. of the theoretical quantity. One class of impurities is more or less harmless—the inorganic substances, such as sodium, potassium, or calcium compounds used in the process of manufacture. The secondary alkaloids form the second class of adulterants, as cinnamyl-cocaine and isotropical-cocaine.

Cocaine as it exists in the coca leaves or during the process of purification and separation is readily decomposed into secondary alkaloidal compounds. Some of these secondary alkaloids are possessed of very decided physiological activities, and these of an undesirable kind. Besides the above-mentioned methods of decomposition, methods of sterilization and solution frequently cause a change in the drug, rendering the cocaine non-analgesic. In choosing a muriate of cocaine one should select that occurring in anhydrous, well-defined, rather large, colorless and nearly odorless crystals.

Briefly reviewing the methods of sterilization adopted by the many operators of today, they all are, with one exception, based upon more or less prolonged action of heat on a *solution* of muriate of cocaine, which even then does not fulfill the requirements of perfect sterilization.

Method of Dry Sterilization Which Fulfills All Requirements.—Carefully-selected muriate of cocaine is broken in a mortar into moderately fine fragments, and heated in a dry sterilizer to 110° C. for about twenty minutes, and then bottled in a clean dry bottle with a tightly-fitting rubber stopper. This insures a dry salt to begin with, which is quite essential for the after-process. Small graduated phials or glass tubes are taken and carefully cleansed, dried and flamed, and when cool such an amount of the cocaine is weighed off into each as will make, when the phials are filled to mark, a 2 per cent. solution. The mouth of the tube is then closely stoppered with a plug of absorbent cotton. It is then placed in a dry sterilizer and the temperature gradually raised to from 140° to 150° C., and maintained at that temperature for from ten to sixty minutes. Ten minutes is usually sufficient time to fulfill all bacteriological requirements, but there might be a possibility of contamination with certain spores which would require the longer period.

One hour's heating of this dry cocaine at this temperature does not impair its efficiency, notwithstanding many statements in the books to the contrary. After cooling, the phials may be taken out at one's leisure, and after the cotton plugs have been withdrawn with sterilized forceps, may be stoppered with sterilized rubber stoppers, or, as I prefer, with ordinary well-fitting corks which have been plunged in a wax resin mixture heated to 170° C., or the end of the tube may be softened in the flame, drawn out and sealed.

To sum up the advantages offered in this method of preparation:

1. Perfect sterility.

2. The product, being dry, lasts an indefinite time, the only thing being necessary when required for use is to sterilize the outside of the container in any convenient manner except by boiling—as, for instance, simply flame the cork and neck of the phial, allowing it to become cool before adding water.

3. No necessity to weigh or measure the cocaine or water at the time of the operation.

4. Absolute efficiency.

This method is so simple that the author hopes it will be generally adopted not only for spinal, but for any kind of cocaine anesthesia where perfect sterility is advantageous.

* * *

ELIMINATION OF PERITONEAL INFECTION AND PREVENTION OF SURGICAL PERITONITIS. Clarke. *Journal American Medical Association*, August 10, 1901.

For the past six years the writer has been interested in the functions and anatomy of the peritoneum. In 1896 he took radical

ground against abdominal drainage in many cases in which it was then used. He strongly favored thorough irrigations of the abdominal cavity at the completion of an abdominal operation to remove as far as possible all debris, blood and infectious matter, and then leaving a considerable quantity of salt solution in the peritoneal cavity to disseminate and promote rapid absorption.

Some epoch-making work on the anatomy, physiology and pathology of the peritoneum is reviewed. He next considers in greater detail a most interesting research on the action of streptococci upon the peritoneum, which he uses in sustaining his position concerning the natural peritoneal method of drainage.

He quotes Walgreen at length to show that although there is at first an increase in leucocytes, after six to eight hours they markedly decrease, giving fuller sway to the infection of the peritoneum. Consequently, by distributing the same amount of infection over a large area of peritoneum, the early increase of leucocytes can do greater damage to the infection.

In 1896 the writer advocated leaving a little salt solution in the peritoneal cavity at the completion of the abdominal operation, and then lifting the foot of the patient's bed for twenty-four hours with a view of hastening absorption. Now, five years later, he concludes that the postural position is unnecessary, as absorption is almost as rapid in the prone position, and the churning of the intestines in the saline fluid facilitates the distribution of the debris and enables the intestines and omentum to float out into their normal position.

Without qualification he says that the routine use of normal salt solution in the peritoneal cavity is not only free from danger, but is of the greatest value as a life-saving measure and as a prophylactic against general or local peritonitis.

He and his assistant have carried out a series of experiments to confirm Muscatello's conclusions concerning the transportation of small granules from the peritoneal cavity. For the purpose carmine, india ink, and ultramarine granules were used, and within a very few hours the foreign bodies were found generally distributed throughout the organs of the body in the following order: In the lungs, then in the liver, spleen and gastro-intestinal tract, then in the kidneys, and finally in the bone-marrow, the lymph glands, and dependent parts of the body.

The investigations were conducted with a view of discovering the ultimate distribution of these foreign bodies, for it was believed that the fate of micro-organisms under similar conditions must be analogous.

The argument in favor of salt solution is based upon the following proposition: Given a minimum amount of peritoneal infection, it is infinitely better to distribute it once before the micro-organisms undergo manifold sporulation than to hope for its elimination after it has gained virulent headway through stagnation or clinging to operation fields within the abdominal cavity. By at once distrib-

uting a minimum amount of the infectious material generally throughout the body the micro-organisms are promptly placed in the most favorable situations for their destruction and elimination.

Whether the alexin or the phagocytic theory concerning the destruction of micro-organisms be accepted is immaterial, for in either case it is better that the micro-organisms be quickly deposited where the antagonistic factors are dominant than to be left behind in the peritoneal cavity, into which the leucocytes and serum more slowly flow.

It was found from investigation that the normal lungs and also the kidneys may withstand and eliminate comparatively large quantities of infectious matter when carried quickly from the peritoneal cavity to these organs. It is the continued action of infectious matter, carried hour after hour from a generating focus in the peritoneal cavity, which works destructively on these organs, and secondarily on the general system. Besides the aforementioned benefits derived from intraperitoneal salt solution, all of the other advantages given by the salt solution, introduced elsewhere, are found here also, as, for instance, in hemorrhage, shock and the urinary excretion. One objection may be offered to the saline infusion, but in no case was it found to be serious. Within the first twenty-four to thirty-six hours after the operation patients not infrequently complained of distress from the diaphragm similar to a pleuritic pain.

"The chief tenet in the argument is based upon the enormous and rapid absorbing function of the peritoneum, which absolutely precludes the possibility of limiting to any surgical field in the peritoneal cavity septic matter or micro-organisms. Accepting this hypothesis as proved, I link my next basal theory to it as follows: Given an infection at the time of operation, it is infinitely better to promote its rapid elimination from the peritoneal cavity than to retard it or attempt to definitely localize or remove it by surgical drainage."

CONCLUSIONS.

"1. The peritoneum has an enormous absorbing function, being capable of taking up 3 to 8 per cent. of the entire body weight in an hour.

"2. Minute solid particles are carried in an incredibly short time from the peritoneal cavity through the diaphragm into the mediastinal lymph vessels and glands, and thence into the blood circulation, by which they are quickly distributed to the abdominal organs and to the bone-marrow.

"3. The granular bodies are at first largely transported as free bodies, swept along by the lymph currents, but later the leucocytes act as carriers.

"4. There is normally a force in the peritoneal cavity which carries fluids and foreign particles toward the diaphragm regardless of posture, although gravity may greatly favor or retard the current.

"5. After the introduction of micro-organisms into the peritoneal cavity there is great decrease in their number within the first hour both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is therefore no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means.

"6. Vigorous streptococci which remain behind develop in six hours a repellent or destructive quality for leucocytes, and the lethal combat is therefore inaugurated and well under way before drainage as employed can possibly exercise any beneficial action. In many cases, therefore, in which surgical drainage is employed the patient recovers in spite of, and not because of it.

"7. A moderate amount of virulent organisms carried by the blood to the lungs, liver and spleen, kidneys, gastro-intestinal tract and bone-marrow may be destroyed or eliminated without the least harm to the patient, whereas if the same amount of infectious matter is detained about a surgical field in the abdominal cavity, or stagnates in a dependent pocket, they may generate myriads of others, and thus overwhelm the patient.

"8. In many cases, therefore, drainage as ordinarily employed is superfluous, or even dangerous, and the rational method is to remove all possible debris and infectious matter by thorough irrigations, and to leave one liter of salt solution (6 per cent.) in the abdominal cavity. In order to promote and hasten natural drainage, supplement this by an enema of a liter of salt solution given while the patient is well under anesthesia and in the Trendelburg posture.

"9. Under this plan the patient is greatly stimulated, shock is minimized or averted, the urinary excretion is greatly increased, and thus toxic matters are more easily eliminated without irritation to the kidneys or the bladder, peritoneal infection is quickly eliminated while yet minimum in amount, thirst is alleviated or entirely prevented, intestinal peristalsis is promoted, and consequently tympanites is of less frequent occurrence, and early action of the intestines evacuates infectious matter thrown out into this canal by the blood-vessels of the villi.

"All of these factors combine to reduce mortality after abdominal sections, to decrease pain, discomfort and the complications of the first forty-eight hours, and finally to hasten the recovery of the patient.

"*Cases in which peritoneal infusions may be dangerous, and therefore should not be employed:*

"1. Ascites accompanying the surgical lesion, which indicates that the natural peritoneal drainage is already deficient. Therefore to add an additional burden through the saline infusions is not advisable.

"2. General purulent peritonitis."

Society Reports.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD AT BALTIMORE APRIL 19, 1901.

THE meeting was called to order by the president, Dr. Wm. J. Todd, and the following papers were presented:

Dr. William Osler: "Medical Aspects of Cancer of the Breast."

Surgery has become largely the practice of medicine, and medicine is the preliminary practice of surgery, in so far at least as regards making the diagnosis for surgeons and handing them our cases for operation. We consulting physicians see a cancer of the breast in two stages, because the patients come to us as the lesser of two evils. They prefer the opinion of the physician, who may possibly tell them that an operation is not necessary, to that of the surgeon, whom they fear will surely tell them that an operation is necessary. I see every year three or four cases of cancer of the breast in its early stage, or cases of suspected breast tumor, but the cases to which I wish to call attention this evening form a more important group for the physician to recognize, namely, the late manifestations of cancer of the breast.

Now, they may be grouped, according to the metastases (for it is through these that we are brought into relation with them), into cerebro-spinal, thoracic, and abdominal groups. We will first consider the cerebro-spinal. Owing to the fact that the metastases are almost as frequent in the bones as in any other part of the body, we see a proportionately large number of cases with symptoms pointing either to disease in the cranium, the spinal canal or the vertebrae. That point has not been sufficiently brought out, certainly not by medical writers. Statistics are available now from several of the large German clinics, and the percentage is considerable.

The first case that called my attention to the matter was a remarkable one that illustrates the cerebral form of metastasis following breast cancer. Many years ago I was asked to see a case with Dr. Agnew in Philadelphia. The woman suffered with headache, vomiting, and progressive coma. She had a double optic neuritis, and it was quite evident that she had a brain tumor. It was not until I saw her the second time that Dr. Agnew remarked: "I forgot altogether that Mrs. R. had cancer of the breast eighteen years ago." On examination there was a hard, firm, scirrhous nodule in the breast. That case is paralleled by many in the literature, and illustrates, too, the fact that often years after a malignant disease has apparently atrophied, a secondary growth may occur. It is the only case, however, out of quite a long series I have had showing pronounced cerebral symptoms.

The spinal group is very much more important, and really forms a very considerable number of all the cases of late metastases in carcinoma of the breast. They are important, in the first place, because they are very apt, indeed, to be mistaken for something else. The metastases may occur in the body of the spine or within the spinal membranes, and a very small new

growth, as in a case recently seen in the Hopkins, may cause very serious symptoms. I saw a very remarkable case a few years ago with Dr. Pole which interested me extremely, as we had made an error in the diagnosis. The patient had a marked neuralgia of the neck and arm, and held her head in a peculiar position, always a little obliquely. On the first visit I did not recognize the condition, but thought it an ordinary cerebro-brachial neuralgia. On the second visit I examined both breasts, and found a well-marked scirrhous tumor in the left one.

But the cases that are of most interest for the physician are those described by Charcot under the name of paraplegia dolorosa—an excellent name. The onset of the spinal symptoms may be early, within a few months after detection of the cancer, or may be delayed for months or years; or, on the other hand, they may occur long before the tumor is recognized. The patient and the physician may not know of the existence of the tumor. An instance of that kind occurred at the Johns Hopkins Hospital in 1894, when a man was brought into Ward C from Union Station having become completely paraplegic on his way up from Florida. He had had curious symptoms of numbness in the hands and feet, accompanied by burning pains, and his physician, who lived in Massachusetts, had been sent for to bring him home. By the time he reached Baltimore he had become so ill that it was decided to bring him to the hospital. He was stripped for examination, and as he stood up it was quite evident that one breast was very much larger than the other. The patient himself had never noticed this, but palpation showed a firm, hard, indurated tumor. With the existence of the primary tumor of the breast the painful progressive paraplegia was easily and readily explained. The difficulty in these cases arises from the fact that weeks and months often intervene between the onset of the pain and the development of the paraplegia, and that pain is the only feature presented by the case for many months. Dr. Thayer may tell us of a case of that kind which he saw last year. Two years, I think, following operation on the breast the patient began to have these pains. She was a nervous, hysterical individual, and these pains were regarded, for a time at any rate, as probably functional, and due to her neurotic condition. I saw her first with Dr. Atkinson, and it was not possible then to say what was the trouble. There were no signs of local recurrences, although the condition was suggestive. Three weeks ago, when I saw her again with Dr. Atkinson, she had the well-characterized features of paraplegia dolorosa. These cases are exceedingly trying, because one is in doubt whether he has to deal simply with the pains of a neurasthenic patient, and one dreads to give morphia; yet the pains become progressively worse, and he has ultimately to give morphia in large doses. Then one feels, as I have in some cases, that the patient should have had morphia, and plenty of it, very much earlier.

The early symptoms usually are not associated with a scar. They are usually distinct pains, a feeling of tingling and numbness, neuralgia of great intensity, and shooting pains down the front or back of the legs, then a slight paraplegia, followed by complete paraplegia. Long before this last you have the characteristic retraction of the legs, associated with severe pain. The degree of suffering is probably as great as that seen in

any other condition. Remember that all this may occur without the slightest sign of a secondary tumor.

A patient died in the Hopkins a few months ago who had these agonizing pains, with paraplegia, but no definite tumor, nor kyphosis. As a rule, you find no evidence of tumor masses in the spinal column, but must accept as the signs of tumor the signs of pressure upon the nerve roots as they emerge from the spinal cord. In the case referred to it was found at autopsy that the tumor growing from the membranes and pressing upon the cord was not larger than a walnut. The spinal cases are the most numerous among the cases I have seen, and in scarcely one of my long series was the condition recognized in the early stage. I wish to emphasize particularly that they are, so far as we know, utterly hopeless cases, and just so soon as you can reach a diagnosis the patient should have all the comfort and aid that medicine can offer. You need not blame yourselves for making them morphine habitues. It gives them relief for a time, and you cannot cure them.

The thoracic group is next in importance, and naturally, owing to the close relation and the liability to involvement of the lymphatics, that group of cases is fairly numerous. Metastases may occur in the pleura, in the mediastinum or in the lungs. Cases in the pleura are common. There is usually an invasion of the pleural membrane, and effusion, and the patient comes with symptoms of pleural exudate requiring tapping, and you may be surprised to find a bloody fluid, and the necessity for frequent tapping. These patients may die with little or no distress other than that associated with dyspnea. The pulmonary cases are exceedingly rare. I have seen autopsies showing such things, but do not remember at this moment a clinical case of the kind. Involvement of the mediastinal glands is, next to that of the spine, the condition with perhaps the greatest degree of distress, and when a year or a few months following the removal of a breast cancer the patient begins to have a cough or dyspnea, without signs of effusion in either pleura, then you know, even if the glands above the clavicle are not enlarged, that one of the worst accidents has happened. Those cases, as a rule, are very distressing, and die of suffocation. There is increasing pain, dyspnea, and pulmonary edema, and fortunately the duration of the illness is shorter than in the spinal cases.

The abdominal group comes next, and first in that class we have the hepatic cases. Metastases affecting the liver are perhaps the most common if you take into consideration a large series of cases. Large nodular masses can usually be felt or seen, and death follows rapidly, without much pain.

I want, in conclusion, to draw attention to a very remarkable circumstance in connection with the secondary tumors following breast cancer. You know it occasionally happens, as in the case of Dr. Agnew's which I mentioned, that the tumor of the breast ceases to grow, the fibrous tissue predominates, and the growth becomes a firm, hard mass, shrinking to perhaps a third of its original size. It is one of the special characteristics of a scirrhus that it not only tends to increase, but that it tends somewhat to heal, just as tuberculosis does. If you look at the central portion of a

nodule of the liver, it is firm, hard, and has undergone changes that are really conservative and on the road to a healing. In a few of these instances of a secondary growth one sees remarkable changes that are almost curative; at any rate, they proceed to such a degree that the tumors themselves disappear, and, what is more important, the symptoms disappear, and the patient, who was in an apparently hopeless condition, recovers, and our grave prognosis was apparently a false one. A number of such cases are on record, and if you should look through both volumes of the Index Catalogue of the Surgeon-General's Library you will find some interesting reading on this subject. A few cases are given there in which the secondary tumors have disappeared entirely.

Two cases of interest in this line have come under my observation. Four years ago last September a young woman came from Pennsylvania to consult me about a lump in her breast. I sent her to Dr. Halsted, who, in November, removed a very large tumor which had already involved the axilla on the right side, so that part of the vein had to be removed. It was an extensive growth, and there was no doubt about its cancerous nature. She did very well, and was soon able to be about, although Dr. Halstead had given a very unfavorable prognosis. Two years ago she came to me again complaining of pain in the side and a loss of vision in one eye. I was sick at the time, unable to examine her carefully, and as her father was then under the care of Dr. De Schweinitz for a diabetic cataract, I asked her to see him. Dr. De Schweinitz sent word back by special-delivery letter that the patient had a sarcoma of the choroid. He did not know about the breast tumor that had been removed, but said that "it is a secondary growth, of course, in the choroid; the first I have ever seen and the twenty-second on record." All that winter she seemed to get worse, and in June, before I went away for my vacation, I went up to see her and bid her good-bye. She was then in very bad condition, with secondary tumors in the other breast, nodules in the liver, loss of power in the legs, and was suffering a very great deal of pain. She was given considerable morphia, and during the fall began to improve, so that, to my astonishment, when I returned I found her not only alive, but rapidly improving, and she has continued to improve. A year later the tumor nodule in the breast had disappeared, she had regained the power of walking, and, what seems more remarkable, she was regaining vision in the affected eye. I see Dr. Randolph shaking his head, and I know it is wonderful, but it is not the only remarkable thing in this case. She still has some pain on walking, and has a slight kyphosis about the fourth dorsal, and though she still has to take a great deal of morphia, she gets about, and recently drove two miles to the station to meet me.

A still more remarkable case you may see walking about Baltimore today. It must be about four years ago that a young woman came to me with a tumor of the breast, and I sent her to Dr. Tiffany, who removed the cancer. About this time last year she began to have girdle pains, pains down the legs, and became completely paraplegic. Dr. Lockwood and Dr. Tiffany for a time expected her death any day or hour, but she gradually improved, went to the country, and about four months ago she walked

from Union Station to my office. She has some secondary nodules, a stiff back, and has to take a certain amount of morphia, but she is able to be about, and attends card parties and other entertainments.

Now, those are cases for which you could not do better with treatment by Christian Science or Lourdes.

Dr. Thayer: The case of paraplegia dolorosa to which Dr. Osler referred was a very interesting one. I first saw her about a year after the operation. She had been much relieved for six months, and then began to have a variety of very distressing nervous symptoms. At first the chief complaint was pain that she could not localize. She would say that she was suffering intensely, but she could not put her hand on the painful area. Her pains were relieved by simple remedies, such as the coal-tar products or codeia, and then suddenly her pains would disappear, and she would complain of vague symptoms of unrest, and would walk the floor for hours without any apparent reason. She went through the whole line of hysterical symptoms, and though we suspected that it might be due to a recurrence of the carcinoma, we could not be sure of it, and her symptoms made us refuse to give morphia or to put her on the rest cure. She went to Philadelphia for a month or so, without any benefit, and while there her pains became worse, and she began to use small doses of morphia. Later in the fall, though her pains were much more marked, there was no evidence of a recurrence of the growth, and recurrence has only become evident within the last month or so. The case simply shows how very unpleasant such cases may be for the patient, and how difficult it is for the doctor to decide whether or not to give morphia or to separate them from the family and friends for rest treatment.

Dr. Jacobs: With reference to cerebral metastases, I had the pleasure last summer of seeing a very beautiful specimen exhibited and explained by Dr. Collier of London. It was a cancer of the brain secondary to cancer of the breast.

With regard to the cases Dr. Osler referred to last—those that apparently recover to a certain extent—a case that has been under my notice for the last two or three years may be of interest. The patient, a friend of mine, was operated upon about two years ago by Dr. Richardson of Boston for cancer of the breast. It was an extensive operation, and before the wound healed the patient was complaining of the most intense pain in one leg. It did not seem located in the joint exactly, but was more particularly along the course of the sciatic nerve. The leg then began to draw up a little, and any movement of it was excruciatingly painful. Dr. Walton was then asked to see the case on account of the nervous symptoms. The leg of the same side as the original cancer was the one involved, and it had wasted away to a small size, with some swelling only at the head of the femur, indicating that the metastasis might be at that point. A year ago it seemed as if she might die at any moment, and when I went away last summer I bade her good-bye, never expecting to see her again. When I came home in the fall she was much better, and from that time on has steadily gained a little, until within the last month or two she has been able

to be out of bed and to take an interest again in some of her household duties.

Dr. Bloodgood: There is very little to add to Dr. Osler's observations, which make me feel that the surgeon should be a physician and look after the ultimate results of his breast-carcinoma cases. At Dr. Halsted's clinic we have had now over 300 cases, but we have been seldom able to observe our cases in regard to metastases. We have had very few autopsies, as those dying outside of the hospital or out of the city are beyond reach for that purpose. I remember the first one I was ever able to get, for I had to travel thirty miles from here and then drive ten miles in the country. The few I have had since have been upon patients who for some reason or other considered themselves under great obligations to the surgeons, and promised an autopsy in the event of death.

I have just been over our records of these cases, and they fall into the groups suggested by Dr. Osler, except that metastases of the bones are more rare than I had thought from my reading of the literature. I mean metastases of the bones that manifest themselves clinically, for you may have metastases of the long bones without any clinical manifestations. In this group of 350 cases there are only six of fracture of the neck of the femur, and the probability is that all of these were due to metastasis. One case which I saw myself I am positive of. The tumor had been removed five years before, and suddenly after a very slight trauma a fracture of the neck occurred. Extension was used, but a definite tumor occurred at that point, and later she died with nodules in other parts of the body.

Recently we have had our first autopsy on a brain in this group of 350 cases. In three cases after the patients had seemed perfectly well for two or three years death suddenly occurred after hemiplegia.

Cases of metastases of the abdomen associated with obstruction are very rare. I have only observed one case. They are most common in the liver and the post-peritoneal glands. In only one instance have they caused obstruction.

The late manifestations of tumors, both carcinoma and sarcoma, are very distressing. There are plenty of instances showing a perfectly healthy condition for five years, and then death occurring from metastasis. We used to think the three-year limit was a fair one after which to pronounce a cure of either carcinoma or sarcoma, but that has had to be given up. As a rule, those that have lived for three years without evidences of local metastasis get well, but every now and then we have seen a case recurring after four, five, or even six years.

Dr. Osler: Dr. Bloodgood's remarks are very interesting, especially with regard to the time limit. That it may exceed three years is a matter to be borne in mind, particularly in view of just such cases as the one I referred to as having been seen with Dr. Agnew. That woman had been perfectly well, strong, capable and active for so long after the operation that he had himself overlooked the fact that she had this old atrophied scirrhus.

I want to call your attention to a very interesting little book in our library by Mr. Munn of Middlesex Hospital, as it contains many interesting points and much valuable clinical information on this subject, and also to another by Dr. Shield, also on carcinoma of the breast.

Dr. Pierce Kintzing: "A Contribution to the Causation of Eclampsia." Dr. Kintzing reviewed the numerous theories which have been advanced since the earliest times, especially since Leber announced the connection between albumen and eclampsia in 1842. The evidence against albumen as a causative agent was given particular attention. The renal-insufficiency theory, he thought, did not account for the pathological lesions. It was pointed out that sugar is sometimes found in these cases, and he cited two instances occurring in his own practice and four other reported cases. The liver degeneration as pointed out by Tarnier and others was described, and an attempt made to determine the nature of the destructive poison in the circulation. In four of Skelton's cases acetone was found. The author cited two cases of his own, in one of which acetone was found in abundance. He suggested that acetone or some allied substance, if not itself the destructive agent, might be the index of the poison in the circulation.

Dr. Dobbin: I have been very much interested in this subject, for I had the privilege of preparing these charts. I think it is pretty generally conceded that a low line of urea is of more definite character than a high line. The high curve will not necessarily mean that the woman is not in a bad condition, whereas the low curve does indicate that the woman is in a dangerous condition. That was particularly well shown in the case of a woman who came in several months before delivery. She had a slight diminution in the amount of urea, with a decided increase in the albumen, and was put on treatment. She improved so that we thought she would have no trouble. She went into normal labor and was delivered within four or five hours. A half-hour later she had severe convulsions, was treated for the next three or four days by all of the known means, but got steadily worse and died five days after delivery.

Dr. Gardner: I am very glad to see that Dr. Williams takes this view of the subject, that you cannot make a definite prognosis in eclampsia, because, with his ability and his facilities for investigation, it is highly probable that some time soon he will be able to tell us something more definite about its etiology. Something over ten years ago, after making a long series of examinations of the urine of pregnant women, I read a paper before this society in which, as a result of that work, I expressed practically the same conclusions that Dr. Williams has given tonight, namely, that there was absolutely no defined relationship between albuminuria and eclampsia. My views were very much criticised at the time.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE. SEPTEMBER, 1901.

SMALLPOX IN 1902.

THERE is said to be an excellent prospect that the year 1902 will be marked in history as a year of epidemic smallpox. J. H. McCollom of Boston says that the history of the disease for the last three years resembles very closely that of the three years preceding 1872, and he expresses the belief that 1902 will be as distinguished as 1872 by large epidemics of smallpox.

The country at large is inoculated so thoroughly that no State is at present exempt from infection. From the reports it would appear that Minnesota, Michigan and Ohio are the most extensively infected States, but the long lead shown by these States in the number of reported cases is a highly suspicious circumstance. The sanitary organization in all these States is very good, and there is a strong probability that their returns of smallpox indicate exact information, and do not indicate more extensive infection than other States are suffering. Comparing reports for 1901 with reports for corresponding periods of 1900, it is seen that the disease has increased everywhere.

Among the States contiguous to Maryland there is not one whose local boards of health are well enough organized to entitle their reports to public confidence. The local sanitary administration in Pennsylvania is poor, though decidedly better than in Delaware, Virginia or West Virginia. In Pennsylvania since February there have been reported 960 cases, as against ten for the corresponding period of 1900. The rural districts of that State are undoubtedly a menace to the northern counties of Maryland. Official intervention has been frequently delayed in that State by disputes concerning diagnosis; but the cases, when recognized, are fairly well handled.

In both Virginia and West Virginia the disease has markedly increased in 1901. The severe lessons of the past three years have not been turned to profitable account in either of these States, for the local boards of health are as ineffective as ever.

Among the States south of us, North Carolina is probably the best organized. It seems safe to accord this distinction to North Carolina on the fact that the State reports the largest number of cases for both 1900 and 1901 (May 1 to June 30, 1900, 440 cases; same period 1901, 318 cases). In the present state of public hygiene in America the safest general rule for the choice of a winter residence is to go to the State whose official figures show the greatest prevalence of smallpox, for there the authorities are awake and heedful.

In Maryland the local sanitary organization is on the whole good,

though it is in spots very bad. There is but one known point of infection in the State. That is in a well-guarded spot. One cannot say confidently that there is no smallpox in one or another of the badly-defended areas. A majority, perhaps, of the border counties are in a good defensive condition. Our one large city, Baltimore, as the records of the last three years show, has as good defenses as are to be found anywhere.

Our important neighbor, the District of Columbia, has been in a state of siege for three years, and has had great success against invading smallpox. Her danger from the Maryland side has been relatively very small, though between us and the District smallpox has been fairly exchanged. In the District and in Maryland the records for 1901 show, so far, fewer cases occurred than in 1900, but in Maryland it must be admitted that the disease has been more widely distributed in 1901. In proportion to her size and area Maryland has up to the present time suffered less than any of the seaboard States. In another year we may have something to lament. The country will have a tug of war in 1902, and Maryland will undoubtedly be in the game.

The outlook is of interest to general practitioners on more than one account. The sanest and the most sordid of doctors are agreed on two propositions—that the treatment of smallpox in private practice is extremely unprofitable, and that the disease may be prevented by vaccination.

THE ROLE OF INTESTINAL WORMS IN THE CAUSATION OF APPENDICITIS.

The suspicion that intestinal worms may play a part in the etiology of appendicitis has been growing for some time, though it has not been generally believed that inoculation of the healthy appendiceal wall can be effected by this means. Metchinkoff presented to the Académie de Médecine (March, 1901) a paper upon this subject in which the *rôle* of inoculating agent was ascribed to intestinal worms, though positive proof of this interesting conception was not offered. The following practical rules were proposed: To examine the stools for worms and their ova in all cases of suspected appendicitis; wherever possible to try in such cases the effect of an anthelmintic purge (santonin for ascarides, thymol for tricocephali); to forbid to persons subject to appendicitis raw food and unfiltered raw water; to make from time to time helminthological examinations of feces, especially in children, and to give vermifuges.

J. Girard reports in *Annales de l'Institut Pasteur*, June 25, 1901, a case in which the actual inoculation of the mucosa of the appendix by the tricocephalus was demonstrated. The case was not one of appendicitis. A girl of eight was admitted to hospital on account of diphtheria occurring two weeks after defervescence from typhoid fever. She had an abundant vaginal discharge dating back to the attack of typhoid fever. Her diphtheria yielded readily to treatment, and she seemed about well, when a rise of temperature occurred, and the vaginal discharge increased. Abdominal symptoms growing in intensity brought the case to operation two days later, when it was found that she had a peritonitis due to infection through the genital tract. The appendix, notwithstanding its healthy

appearance, was removed "*par precaution.*" On section part of the lumen of the appendix was found to be occupied by two tricocephali. Under the microscope the anterior extremity of one worm was found to be buried in the mucosa, which was infiltrated with leucocytes, and contained numerous bacilli and cocci evidently transferred by the worm from the intestine into the appendiceal tissue. In short, here was an appendicitis, in process of formation, started by a tricocephalus.

The small lesions of the intestinal mucosa often found associated with the presence of ascarides and tricocephali have hitherto been ascribed to chemical irritation. The sections in this case show that the tricocephalus can inflict mechanical injury by burying its anterior extremity in the intestinal mucosa. The normal habitat of the tricocephalus makes it a septic body, and being able to wound the intestine, it may cause more or less serious mischief. Thus M. Girard concludes, with Metchinkoff, that not only may the symptoms of appendicular coli be due to the presence of worms in the appendix, but also that tricocephalus, as an agent of inoculation, may produce inflammatory lesions of greater or less extent and gravity.

A WATER DEPARTMENT QUIP.

"Do you bite your thumb at me, sir?"

THE thumb of the Baltimore Water Department was recently bitten, self-bitten, pointedly bitten at the Health Department, but the Health Department ignored the quip and so spoiled a pretty quarrel.

The midsummer warning of the Health Department against the use of raw water wounded the feelings of Mr. Quick, engineer and official purveyor of raw water. Mr. Quick did bite his thumb, thereby declaring that the implied criticism of his raw water was false and slanderous. He published a chemical analysis of the pearly brew, exhibiting its several perfections in parts per million. The gentle chemists attempted no undue familiarity with Mr. Quick's water, and did not, so far as we are informed, gaze upon, taste, smell or bathe in it. They approached by the most roundabout path of chemical analysis, and made the politest observations. In the vulgar road of common sense they would have collided with rude facts.

The chemists probably knew, and perhaps informed Mr. Quick, that rational judgment of the character of a great water supply is not based upon one, two or a dozen mere chemical examinations. Still, if Mr. Quick wants to balance an eel on the end of his nose the chemists were kind to give him but one eel for his first performance.

The systematic examinations, both chemical and bacteriological, made by the Health Department; the regular inspections of the water-shed made by the Water Department; the hundreds of thousands of individual observations daily made upon the color, taste and odor of the water—these things make known its quality by evidence abundant and convincing. No thinking person will be guided or misguided by a device so time-tattered, so archaic as Mr. Quick's chemical report.

"You are old," said the youth; "one would hardly suppose
That your eye was as steady as ever;
Yet you balance an eel on the end of your nose.
What made you so awfully clever?"

Medical Items.

Dr. Frank Ravenscroft of Friendsville, Garrett county, died on August 12.

Dr. James Bosley, Health Commissioner of Baltimore city, is now pushing a general vaccination.

In New York State seventy-four deaths from smallpox occurred in June, the largest number ever recorded in that State.

Six cases of anthrax have been treated within four months at the Lynn (Mass.) Hospital, five of the cases resulting fatally. All are leather workers.

Dr. B. Merrill Hopkinson, who is summering at Checkley, Maine, recently gave a concert there for the benefit of the Children's Fresh Air Fund of Baltimore. The proceeds were $50.

Dr. J. F. Deckret has been committed to the Baltimore city jail to await the action of the grand jury upon the charge of criminal abortion performed upon Mrs. Mary Kapralik, who died as a result of the operation.

The State Board of Health has addressed a letter to all the local boards of health pointing out the probability of frequent invasions of the State by smallpox this winter, and urging them to make early and complete preparation.

Health Commissioner Bosley is enforcing vigorously the law against the sale of artificially-colored sausage and other foodstuffs. Such foodstuffs are confiscated and consigned to the fertilizer tank at Baltimore Butchers' Abattoir.

The newspapers report that the experiments upon the production of yellow fever by the bite of infected mosquitoes have been brought to an end by the death of two subjects. The earlier experiments led the commission to believe that a mild yellow fever might be inoculated in that way, conferring immunity at very slight risk of life.

The mayor of McKeesport, Pa., who has become recently very prominent by upholding the strikers against the United States Steel Corporation, is a practicing physician, Dr. Robert J. Black, who has for twenty-five years been in active and extensive practice among the working people of his city. The trust and the politicians fought him bitterly, but he was elected mayor by a small majority.

Smallpox was present at but two places in Maryland during the month of August. A family of four persons, all unvaccinated, living near Leitersburg, Washington county, were infected by a family living in Franklin county, Pennsylvania. A white girl leaving the same family before the disease appeared and going to Wolfsville, Frederick county, fell ill with smallpox and infected fifteen other persons.

A recent circular-letter of the State Board of Health to the local boards of health in Maryland concerning the prospect of smallpox epidemic says that in Baltimore forty-eight cases of smallpox have been found in the past three years, and in no instance has the disease spread beyond the house in which it was discovered. This showing is extremely creditable. Some of the county boards have, it is said, handled their one or two outbreaks just as effectively.

The town health officer of Hinchman, Mich., is ill with smallpox. He is a "physio-medical" physician, Dr. William E. Jones. In the State Asylum for the Insane, Michigan, there are said to have been recently several cases of eruptive disease, not smallpox, chicken-pox nor varioloid, though the physicians hope to make a diagnosis. If they will vaccinate and isolate the disease will in all probability disappear without having proclaimed its true name, but if they will import some unvaccinated Maryland negroes they can probably grow the strange disease quite vigorously, and to the entire satisfaction of their diagnostic sense.

Dr. Thomas Sappington died in Baltimore on August 11, aged eighty-five years. Dr. Sappington belonged to a family which has long been honorably represented in the medical profession of Maryland. His grandfather, Dr. Thomas Brown Sappington, was one of the incorporators of the Medical and Chirurgical Faculty, and three of his brothers were physicians, Drs. Sidney, Greensbury and Augustin Sappington. He graduated in medicine at the University of Pennsylvania in 1839, practiced medicine in Frederick county for twelve years, and then began practice in Baltimore. He had been retired from practice about twenty years.

Mrs. Jane Lynn of Emlenton, Pa., died on August 12, having taken no food of any sort for fifty-five days. During the last sixty-one days of her life she had taken but one ounce of food.

In Brooklyn all houses occupied by three or more families must be registered as tenement-houses. Failure to register is punishable by a fine of $50. This regulation goes into effect on September 6.

Dr. Louis Knapp of St. Louis, has agreed to permanently isolate himself with a Chinese leper recently discovered in that city. Dr. Knapp is 40 years of age, and his contract separates him from his wife and four children.

According to a London correspondent of *American Medicine*, Koch left the hall immediately after reading his sensational paper, and did not return during the discussion. He did not attend the social functions, not even the King's levee. Among those who participated in the discussion against Koch's paper, a young Philadelphia veterinarian, Dr. Mazyck P. Ravenel, made a strong impression. The same correspondent says that on the day following the delivery of Koch's remarkable paper Sir James Crichton Browne read a cablegram from America. Dr. Horace Manchester Browne of Milwaukee had cabled Koch's startling dictum to friends in Wisconsin. The reply which the chairman read to the Congress was as follows: "Cable received; question considered; experiments begin tomorrow." This telegram is said to have been read in a very impressive manner and to have produced a stirring effect.

Among those who amused the bay-shore crowds in August was a young man named George Simon, who was coffined and buried at River View Park, remaining in the earth for three days. Two four-inch square tubes ventilate his coffin, one at the head and the other at the foot. The dimensions of the coffin are 6 feet by 3 by 2½. On Monday after his first interment a heavy rain fell, and his coffin leaked. Material and tools for calking the box were passed down the tube, and he stopped the leak. Then dry clothing was sent down. This enterprising young man describes his days as interesting enough, for he receives visitors, who pay ten cents for the privilege of talking with him; but the nights are dull. He says that he takes no food while in the grave, nor any drink except half a pint of whiskey, which suffices for his three days' seclusion. Once after being buried in wet ground he says that he suffered a severe attack of rheumatism. He does not apply to the health authorities for a burial permit, nor for a permit to be disinterred. In Maryland it is unlawful to disinter a human body in the months of July and August. It is perhaps not worth while to enforce the law in such an instance as this. In the matter of a disinterment one should always respect the wishes of the corpse, provided, of course, one can ascertain his wishes without digging him up.

Correspondence.

COLLECTIVE INVESTIGATION ON SILVER-NITRATE INJECTIONS IN PHTHISIS.

To the Members of the Medical Profession:

In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia and there is reason for believing that this procedure, which resulted in gathering 400 cases of this disease thus treated, with a death-rate not quite 5 per cent., was an important factor in calling attention to the utility of that treatment and in introducing it to the profession of this country. That research was based on the conviction that no remedy can be called truly successful until it has passed the exacting crucible of clinical experience, and it is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which, in a large hospital, dispensary and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above-expressed feeling, a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis, and to whom a reprint on the subject, with full information and blanks to report cases, will be cheerfully sent on application.

Thomas J. Mays, M.D.
1829 Spruce street, Philadelphia, Pa.
August 15, 1901.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 10 BALTIMORE, OCTOBER, 1901 Whole No. 1001

THE SIGNIFICANCE OF APEX PNEUMONIA.

By Eugene F. Cordell, M.D.,

Professor of Principles and Practice of Medicine, Woman's Medical College of Baltimore.

In the recent literature of acute lobar pneumonia one meets with much confusion of statement as to the significance of that variety which selects the apex of the lung as its seat. Some authors say that it is rare, others that it is frequent; some that it is unusually fatal, others that its mortality is slight; some that it is characterized by severe delirium and other special phenomena, others that its symptomatology varies little, if at all, from the ordinary form; some that it involves a strong susceptibility to phthisis, others that there is no relationship between the two affections, etc.

Such variety of opinion indicates either that our knowledge of the subject is not yet as full and exact as is to be desired, or else that we have not made good use of the facts which are already at hand. It is my purpose to consider briefly in the light of our present experience how far these points are capable of being definitely determined at the present time; in other words, to endeavor to find answers to the questions: What differences, if any, as to age, frequency, symptoms and severity, exist between pneumonia seated at the apex and the more common basic form? Especially are delirium and other severe symptoms more common in the former? Is it especially apt to be overlooked? Does it tend to lead to phthisis?

Site and Frequency.—Flint found upper-lobe involvement in 11 cases, and lower-lobe involvement in 62. In Osler's 100 autopsies the figures were 16 and 39, whilst of the 52 cases shown in Osler's clinic during the present session (1899-1900) a single upper lobe was involved 9 times, a single lower lobe 15 times. Fowler and Godlee's figures are 20 and 44; Pye-Smith's (in Allbutt's System), 80 and 291. There is evident variation in the figures, but the general average of 1 to 3 may be accepted as approximately correct.

Of the two apices, the right is more frequently involved, Flint's figures being 8 to 3, Osler's clinic 7 to 2, and Pye-Smith's statistics 60 to 20, and this gives an average of 3 to 1.

In 55 cases of double pneumonia out of the total of 434 reported by Pye-Smith, the right apex and left base were affected together twice, the left apex and right base together 5 times, so that this combination may be regarded as very rare.

Age.—In Pye-Smith's figures there were 140 cases out of 434 under 15 years of age, and it is noticeable that of the 111 fatal cases reported by him there were for the first 15 years of life but 3 of a base, and 1 of an apex. Morrill (*Archives of Pediatrics,* 1897) gives the relative frequency in childhood as follows: Lower lobe (including middle lobe of right side) when right lung was involved, 65 per cent.; upper lobe, 27 per cent., a proportion of about 1 to 2½. Barthez and Saurre (*Clinical Sketches,* 1895) report 45 apex cases to 146 at the base. These figures do not indicate a greater relative frequency at the apex in early life, although this is generally stated in the authors.

Symptoms and Complications.—Delirium was not a frequent symptom in the 111 fatal cases reported by Pye-Smith. Of the 51 seated at the base, there was "marked delirium" in 1, "delirium" in 6, "delirium tremens" in 2. In the 20 seated at the apex, there was "marked delirium" in 1, which, however, was complicated with pericarditis; "delirium" in 3, one of which was complicated with pericarditis, and delirium tremens in 1. In the entire 111 cases "delirium," including "delirium tremens," was present only 18 times, so that, as it was noted previously in 14 cases which were limited to apex or base, only 4 cases remain for double pneumonia, or involvement of an entire lung. Pye-Smith says that delirium is probably present in some degree in every case, so that the fact of its being noted by him would indicate that it was diurnal in character or marked in degree.

The following figures are of interest in this connection: Heintze (quoted by Jürgensen, *Ziemssen's Cyclopedia*) reports 21 of 117 cases of *exclusive* upper-lobe involvement as exhibiting severe head symptoms, whereas of 200 cases affecting lower lobes only, 51 had the symptoms in question.

The chief cause of delirium in the adult is intemperance. The latter was present in marked degree in 16 fatal cases, and in "most" of 10 other fatal cases it was noted. In only 4 cases marked "intemperate" in the 111 fatal cases of Pye-Smith was the disease limited to the apex, ulcerative endocarditis, pericarditis, and delirium tremens, respectively, complicating 3 of these cases, whilst in 10 of those marked "intemperate" the disease was limited to the base, 4 of these being complicated with delirium tremens, gangrene, and pregnancy.

Sturges and Coupland report the case of a nurse maid, aged twenty-eight, with apex pneumonia, who ran naked and violently delirious through the ward. Nevertheless, she had the crisis on the eleventh day and recovered. Such an unusual case would

make a great impression on one's mind and be likely to throw the scale in favor of delirium in apex pneumonia.

The following cases are mentioned, however, without the statement that they accompanied the apex form, which renders it highly probable that they were of the ordinary variety: "A young man behaved so strangely on the train that he was handed over to the police as a lunatic, and as he had no cough and little fever (though he complained of pain in the side), pneumonia was not recognized for several days" (Osler, quoted in *Twentieth-Century Practice,* Vol. XVI). "A young man, not alcoholic, in the service of the writer in the New York Presbyterian Hospital, during a momentary absence of the attendant, dashed across the ward and through the sash of a closed window and fell from the second story to the ground. He recovered from his pneumonia and from the injuries sustained from the fall" (Andrew Smith, *idem.*). A patient who had been doing very well, with the exception of slight delirium, while the orderly was out of the room for a few moments, got up, raised the window and jumped out, sustaining a fracture of the leg and of the upper lumbar vertebrae, of which he died" (Osler, *Practice,* third edition). Cases of this sort could doubtless be multiplied if one were to search through the literature.

In the child we find in acute lobar pneumonia the same tendency to nervous complications which characterizes acute febrile diseases generally at that period of life, and justifies in some cases the term "cerebral pneumonia." But there is little actual evidence of a greater tendency in this direction on the part of children with apex disease than of those with disease of the base, and when so judicious a writer as Henoch denies this statement we may be excused for requiring good proof of it. I will revert to this subject later.

The figures of Pye-Smith throw light upon the relative frequency of certain other symptoms and complications. In his 434 cases, pericarditis occurred 14 times, of which 5 were situated at the apex and 6 at base; icterus in 4 cases, 1 at apex and 3 at base;* of 5 cases of gangrene only 1 occurred at apex;† meningitis occurred 5 times, 2 being at the base and none at the apex; endocarditis occurred 6 times, of which 1 was at the apex and 2 at the base.

It has been said that apex-pneumonia is apt to be overlooked. If this be true it is not necessarily due to greater severity or unusual character of symptoms; it may be due to the unusual location or to the mildness of symptoms. The study of this point would rest, therefore, upon the determination of the symptomatology, the relative frequency of severe or unusual symptoms, and to accidental

*Behier (Sturges and Coupland) is said to have noted jaundice more in the apex form. Osler found it twice in nine apex cases, and not once in fifteen basal cases.

†This is in striking contrast to the experience of Sturges and Coupland, who found this symptom nine times in 144 cases, and in five of those nine the pneumonia was situated in the right upper lobe.

circumstances, as the intelligence and thoroughness of the attending physician. We have to revert to the symptomatology, therefore, to learn in which of the two forms delirium, convulsions, coma, remote phenomena, complications, etc., are more frequent.

Duration.—The duration of the apex, compared with the basic form, cannot be deduced from Dr. Pye-Smith's statistics. We only learn that many of the children's cases were mild and brief, some lasting but three days.

Prognosis.—The small mortality in early life is shown by the following: Of the 434 cases, 8 deaths occurred in 131 cases under 15 years, and in every one of these 8 there was double pneumonia or some serious complication. Simple uncomplicated croupous pneumonia in the child has practically no mortality. Andrew Smith had but 1 death under 15 in 434 cases, the total mortality being 141; Sturges and Coupland had 1 death in 20 infants and children, and that from diphtheria complication.

Sturges and Coupland give as the general rate of mortality at all ages in 89 cases: Single apex-pneumonia, 1 death in 7.3 cases; single-basic pneumonia, 1 death in 8.5 cases. Of Pye-Smith's 111 deaths, there were 51 basic and 20 apical involvements.

Although not dealing with the subject of double pneumonia, I give the following: The mortality of the 7 cases in which an apex and opposite base were involved was: Right apex and left base, 2 cases, of whom 1 died, 1 recovered, no complications; left apex and right base, 5 cases, of whom 4 died and 1 recovered, and of the 4, 1 occured as a complication of phthisis, 1 had diarrhea, and 1 had delirium tremens and cirrhosis of the liver. Of the 6 fatal cases, therefore, 3 were complicated, 2 with necessarily fatal conditions. Of the 7 cases, 2 were in children, of whom 1 died and 1 recovered. Both apices were involved twice, both in children, both uncomplicated, and both terminating in recovery.

The following points are of interest in connection with the mortality: Of the 111 deaths (Pye-Smith), intemperance is noted in 4 apex cases and 10 base cases. This is not given as indicating the influence of alcoholism, which has already been stated to have been found in many other cases, but it does indicate that this habit does not produce any increase of mortality in the form which we are considering.

Every case in which pericarditis occurred, 14 in all, proved fatal; 5 times it involved the apex and 6 times the base. Of the deaths in connection with Bright's disease, there were 3 apex cases and 4 basal. Bronchitis occurred in 2 apex cases and 1 basal. Endocarditis was found in one apex and 2 basal cases, meningitis being associated with one of the latter. Meningitis, which accompanied 5 of the fatal cases, was not found once in connection with apex disease. Diabetes and phthisis were not noticed once in apex cases. Pleuritic effusion was present in 1 apex and 1 base case. Empyema, which followed pneumonia in 24 cases, was not present in one of those limited to base or apex. Hyperpyrexia was noted in 1 fatal apex case and 3 fatal basic cases. Strange to say, there

is not one death registered in connection with hyperpyrexia in double pneumonia.

In interpreting these figures (Pye-Smith's) there are one or two cautions to be observed. One is to remember that they represent 362 hospital patients and 72 private patients; the mortality of the former class is always high, and the private cases representing consultation practice were "usually severe and sometimes hopeless." Moreover, these were general hospitals, where children are always in the minority. Children with pneumonia also would be more likely to be treated at home than sent to a hospital. Therefore the above figures do not represent the real frequency of acute lobar pneumonia in childhood or the relative proportion of cases of early life as compared with adult life.

Details of Cases.—I have drawn up histories of 18 cases of apex pneumonia, with the following results: In 2 the maximum temperature reached 105.2°; in only one other case did it rise to 105°. The maximum frequency of pulse in the adults was 160, and that reached in only 1 case. In 3 cases there was "active delirium;" in one of the 3 it was "wild;" all 3 recovered, the crisis taking place on the ninth, tenth and eleventh days, respectively. Only 1 of the 18 died, the symptoms being mild in that case, and death occurring unexpectedly on the third day. The patient was a male, aged forty-eight, whose habits are not stated. There were no complications in this case; a post-mortem was held. In 2 of the 18 only were there complications—in one suppuration of the right parotid gland and right pleural effusion, the pneumonia, however, involving the left apex; in the other suppurative tonsilitis. In one very severe case the crisis occurred on the eighth day, and the next day the patient aborted a six-months-old fetus. She recovered. The influence of age in the production of nervous symptoms is shown in the 4 cases occurring in children one, seven, eight and nine years old, respectively. In the first three there were, 1, epileptiform convulsions; 2, prolonged convulsions; 3, delirium and convulsions. All 4 recovered. Several of the cases were so mild as to require practically no treatment. The crisis took place in 1 on the fifth day, in 2 on the seventh, in 2 on the eighth, in 3 on the ninth, in 1 on the tenth, in 1 on the eleventh, in 1 on the twenty-first, and in 1 the crisis is noted, but date not given.

In Osler's 9 single-lobe apex cases jaundice is noted in 2, and otitis media (the only complication) in 2. The mortality of these 9 was 2, whilst that of the 15 single-base cases was 4, being therefore somewhat greater in the latter series.

Leucocytosis.—The maximum leucocytosis in 5 apex cases (Osler) varied from 12,700 to 52,000, averaging 27,050; in 13 base cases it varied from 6875 to 48,000, averaging 39,144.

Relation to Phthisis.—The relationship of apex pneumonia to phthisis is an interesting question. The rarity of coincidence of the two diseases is shown by the tables of 111 fatal cases of Pye-Smith. In only 3 cases was phthisis a complication of pneumonia. In one the right base was alone affected; in the other two both

lungs. In another case, marked "spinal caries," both bases were affected. "It is important to notice," remarks Pye-Smith, "that lobar pneumonia is very rare as the consequence of phthisis." Nor does he speak of phthisis as a sequel of pneumonia, and from his silence it is to be inferred that he has not met it.

Phthisis was present in three cases at Osler's clinic, which for that reason were not included with the fifty-two mentioned above. The onset of acute phthisis, with symptoms identical with those of acute lobar pneumonia, has been mentioned by several authors. Osler relates such a case in a robust young cab-driver, in whom the attack followed exposure, and there was "no single feature" of acute lobar pneumonia of the right upper lobe absent. I had a case exactly identical with this in a negro boy, aged fourteen, at the Hospital of the Good Samaritan. The site of the disease was also at the right apex. Sturges and Coupland met with a similar case; and another case, also at the right apex, is reported in the *Archives Gen. de Med.* for August, 1891. Pneumococci were found in the sputum on the fourth day, but no tubercle bacilli until three weeks later. There is no criterion by which such cases can be recognized in the early stage, remarks Osler, but they suggest early and repeated routine examination of pneumonic sputum in all cases. If these cases are tuberculous from the start, as is generally believed and seems probable, there is no reason why they should be included with "acute lobar pneumonia."

Unusual Mildness.—I have referred to cases of apex pneumonia which exhibit a very mild character. These are particularly seen in children from two years upward. "A child who was brought to the outdoor department on account of general malaise was found to have the apex of one lung consolidated without there being any other subjective or objective signs of the affection. For five weeks he had a markedly high temperature, but never at any time, in any observations, distress, and insisted on sitting up in bed" (Martin and Smith, *Montreal Medical Journal,* July, 1898).

A young colored woman was referred to me some years ago by the clinical assistant in the chest department of the Woman's Medical College for treatment for "malarial fever." There was no complaint of the chest or other part, but, owing to slight shortness of breath and cough, I examined her lungs, when I found the right upper lobe in a condition of pneumonic consolidation. I had great difficulty in persuading her to go to bed. She never had any discomfort, and got well in a few days, and was well when last seen a year after her recovery.

"A respectable man, aged forty-eight, was found dead in his bed, and an inquest was necessary. For three years he had worn a tube in his trachea in consequence of laryngeal disease, for which he had undergone tracheotomy. He had been unwell for two days previous to his death, but not so seriously as to excite any apprehension. The upper lobe of the left lung was entirely solid from gray hepatization. The disease was limited to this part, and there was no evidence of inflammatory change in other parts of the

lungs. All the other organs of the body were healthy" (Sturges and Coupland).

In the foregoing remarks I have limited my comparison as far as possible to pneumonia of one apex and that of one base, as it seems to me that is the only way to arrive at an impartial judgment of the differences and tendencies of the two. I have also confined myself to statistics and reports of cases, since mere impressions or conclusions based upon memory are delusive.

There were many other interesting points in connection with the subject, but upon which no light was thrown by my research, as the relative duration of the apex and base forms, and of the former as compared in childhood and adult life, whether crisis and resolution are hastened or delayed, whether the tendency to limitation is less in early life, whether expectation and hopes are affected by location and age, etc.

CONCLUSIONS.

In conclusion, although I realize the risk of drawing conclusions even from what appear abundant and convincing facts, I give the following as deductions apparently warrantable from my investigation of the subject:

Acute lobar pneumonia affecting the apex is about one-third as frequent as that affecting the base, and of the two apices, the right is affected about three times as often as the left. Involvement of one apex and the opposite base is very rare, and that of the two apices still rarer. Apex pneumonia is not rare in early life, and the relative involvement of the upper and lower lobe corresponds with that in the adult. The general mortality of the apex and basal forms is about the same. Involvement of one apex and the other base does not appear to be a fatal form of double pneumonia, apart from complications. The mortality of uncomplicated apical disease in the child is almost *nil*. Delirium is not an unfavorable prognostic symptom at any age. Intemperance and hyperpyrexia do not increase the relative mortality at the apex. Pericarditis is a fatal complication, and Bright's disease and bronchitis render the prognosis much graver. Delirium is not a more frequent or marked symptom in apex cases in the adult, and seems to occur more often in cases with complications than in the basal form. Intemperance, which is the chief cause of this symptom, does not seem to increase its relative frequency at the apex. There is no positive evidence that delirium is more frequent or prominent in the young with apical pneumonia. Pericarditis is relatively more frequent in apex cases. The same appears to be the case with otitis media. It is not evident in the case of icterus, hyperpyrexia, endocarditis, meningitis, pleurisy, diabetes, or empyema. Gangrene is doubtful. There is no reason (other than site) why apex pneumonia in the *adult* should be more readily overlooked. Phthisis is rare in connection with acute lobar pneumonia, and the apex form involves no tendency to eventuate in it. Cases of apex pneumonia, even in the adult, sometimes assume the mildest symptomatology.

PREGNANCY AT THE AGE OF ELEVEN YEARS TERMINATING IN NATURAL DELIVERY.

By L. M. Allen, M.D.,

Associate Professor of Obstetrics in the University of Maryland.

T. R. was sent to the Free Lying-In Hospital of the University of Maryland from Queenstown, Md., and the following history was obtained:

Colored girl, age eleven years. Menses first began, as well as could be ascertained, at the age of ten years and three months, and had been regular; family history negative.

Physical examination: Patient has the appearance and characteristics of a child of eleven. Hands and feet are very small. She is fond of playing with dolls and of childish amusements; height, 132.5 centimeters; no evidence of rickets or any other disease.

Pelvic measurements: Interspinous, 22 centimeters; intercristal, 21.5 centimeters; right external oblique, 18.5 centimeters; left external oblique, 18.5 centimeters; external conjugate, 14.25 centimeters; circumference, 77 centimeters; distance between trochanters, 28.25 centimeters; diagonal conjugate, 8.5 centimeters; conjugata vera, 6.5 centimeters; vagina very small.

Inspection of abdomen showed a tumor extending 3.5 centimeters above the umbilicus, smaller than the average pregnant uterus at this period (seven months).

Palpation: Vertex presentation, left position, anterior variety; head small and situated high above the pelvic brim; size of fetus estimated as small; amount of amniotic fluid normal.

Auscultation: Fetal heart sound heard with maximum intensity in the left lower uterine quadrant.

Recognizing that we had a small pelvis to deal with and that it might give rise to complications in the delivery, the patient (to use a hospital expression) was put upon the shelf.

The pregnancy advanced to full term, nothing eventful happening. The abdomen was palpated from time to time to note the growth of the fetus, and especially the size of the head and its relation to the pelvis. It was decided that the labor should be allowed to begin and proceed naturally in order that it might be terminated spontaneously if possible. At the same time a very careful watch was kept over the patient. At the expected time the labor began. The patient was placed in the nursery, and palpation of the low uterine segment showed the head partially engaged in the brim; uterine contractions rather slow and deficient. The labor progressed steadily, the head gradually sinking lower into the pelvis.

After the labor had lasted about fourteen hours the patient was put upon the examining table, and while the resident physician was preparing for examination the child was born, the fact not being recognized by the nurse who was in the room. In one-half hour the placenta was delivered artificially. A normal amount of blood was lost. Patient was taken to the ward in good condition, and made a rapid and uneventful recovery.

The child was well developed in every respect, cried lustily, nursed vigorously, and when sent away to an orphan asylum, on the sixteenth day, was in very good condition.

Weight: 32.65 grammes.

Measurements of head: Occipito-mental, 12.6 centimeters; occipito-furnal, 11.2 centimeters; suboccipito bregmatic, 10 centimeters; biparietal, 8 centimeters; bitemporal, 7.2 centimeters; circumference of head, 32 centimeters.

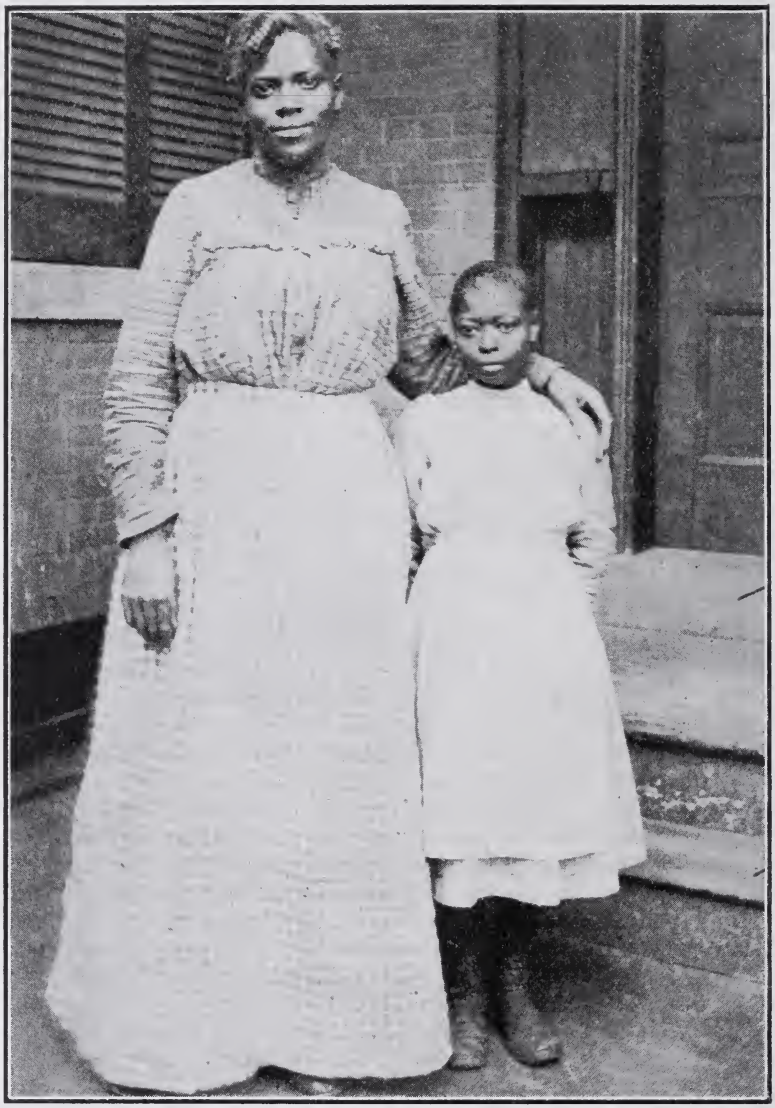
A peculiar feature of the case was that the labor was attended with so little real or apparent pain. During the whole labor hardly a sound was uttered by the patient, even during the passage of the head and shoulders over the perineum.

The occurrence of pregnancy in one of such an age in this part of the country is very rare. At the time of conception she was about ten years and eleven months old, and when the child was born her age was eleven years and eight months. In the extreme Southern countries, Egypt, Sierra Leone and India, where marriages are consummated so early in life and where menstruation begins as early as the eighth year, pregnancy at such an age is not an uncommon occurrence, but in this country it is very rare.

Another point of interest is the extremely easy labor with a very small pelvis. As is seen above, the pelvis is one of infantile type and justo-minor variety, and although, as very often occurs in this race, there is decided compensation internally, still the measurements as compared with the normal and with those of the child's head are decidedly contracted.

The subject of contracted pelvis is a very broad one, and concerning which there is a wide difference of opinion. To consider it in detail would consume too much time and space, and would only be a repetition of what has already been better said.

In the management of a given case many things have to be taken into consideration. These, in the order of their relative importance, are: The degree of the contraction of the pelvis; the estimated size of the fetus, especially the head; the mobility or compressibility of the head, estimated by the width of sutures and size of fontanelles; strength and rythm of uterine contraction and special conditions of presentation; the age of the patient; the size and general appearance of the husband, especially of his head. An eminent obstetrician says: "Show me the father and I will tell you the size of the child."



T. R., STANDING BESIDE A WOMAN OF AVERAGE STATURE.

Even after recognizing these conditions, unless it is an extreme case, many doubts will arise in the mind of the attendant as to the course to pursue and what will be the outcome of the case. Many cases occur in which the conditions are practically the same, i. e., the same size pelvis and fetus, yet one terminates spontaneously and another artificially. E. G., another woman in our clinic, with a similar pelvis and a fetus with the same size head, was delivered twice, once by symphyseotomy and once by Cesarean section.

It may be put down as a general rule that, with a pelvis of 8 centimeters conjugata vera and above, the labor will usually terminate naturally, or be terminated by one of the conservative operations—forceps or version.

But it is in the cases with a conjugate below 8 centimeters that doubt arises, and these very often have to be treated by one of the more severe methods. Then the question arises whether the patient will deliver herself or will have to be delivered; and if the latter, by what operation. If the head engages in the pelvis or can be made to engage by manipulation, a high forceps operation will be sufficient.

If the head does not engage naturally, or cannot be made to engage artificially, a major operation had better be thought of. It is then that the attendant is called upon to decide between symphyseotomy and Cesarean section. Upon this subject the various operators differ so widely that it is difficult to arrive at any definite conclusions. The personal experience of the author being limited to three symphyseotomies and three Cesarean sections, he will refrain from offering any opinion, but will give the opinions of some of the recognized authorities.

Hirsh says: "Taking into consideration the statistics of both operations throughout the civilized world, it may be said that Cesarean section is about twice as dangerous as symphyseotomy in the hands of a surgeon not especially trained. The expert abdominal surgeon with a thorough aseptic technique should have about an equal mortality in the two operations."

He goes on to give the indications for the operation by saying that a woman with a conjugata vera of 7 centimeters or over should be allowed to remain in labor twenty-four hours. If, at the end of that time, the head is not engaged, the axis traction forceps should be applied and an attempt made to engage the head. If, after twenty minutes of intermittent tractions with justifiable force, the head is not engaged, a choice must be made between version and symphyseotomy. In other words, in such a case Cesarean section is not considered at all by Hirsh.

For Cesarean section he gives relative and absolute indications. An example of the former is a pelvis with a conjugata vera of 6.5 centimeters or above. A true conjugate below that is considered an absolute indication for Cesarean section.

Fry says: "Symphyseotomy is an operation easily and quickly

performed, and removes all the dread of a serious operation," and he strongly recommends it. Many authors might be quoted, their views differing according to their varying success. Those operators who have performed a number of symphyseotomies naturally look upon it with favor, and the same holds good in the case of Cesarean section.

In the last few years, however, Cesarean section has gained very much in popularity, and it is safe to say that at the present time the majority of authors consider it the operation of choice. The general consensus of opinion is that the best results will be obtained with the following treatment: Given a doubtful pelvis, i. e., one with a conjugata vera of 7 centimeters or above, a careful examination should be made to note the relation between the head and pelvis. If the head be found normal or the difference between the above measurements be not too great, allow the patient to go into labor, at the same time keeping a careful watch over her. As soon as labor begins she should be prepared very carefully for an abdominal section in addition to the usual preparation for forceps operation. If the head engages in the pelvis, the labor can be terminated by forceps; if it does not engage and there is not too much disproportion between head and pelvis, the forceps may be very carefully applied and a few strong tractions made to cause engagement of the head. If this proves unsuccessful, perform a Cesarean section at once. The primary preparation of the patient is very important, as it saves a great deal of time, which, in many cases, means no less than the life or death of the infant.

In a case which has a conjugata vera of 6.5 centimeters or less, with a normal head, Cesarean section is the primary and only operation to be considered.

The field for symphyseotomy is very narrow, but I believe it is a justifiable operation under the following conditions: When the attendant is not an expert abdominal surgeon, the pelvis is not extremely contracted and the surroundings are not conducive to clean surgery. In such a case the operator will obtain better results, as a rule, from symphyseotomy than from Cesarean section.

The objections, apparently well founded, urged against symphyseotomy are:

First—The danger of attempting the operation in unsuitable cases, i. e., when, after the separation of the bones, the pelvis is not sufficiently enlarged to allow passage of the fetus.

Second—The danger of laceration of the bladder, urethra or sacro-iliac ligaments, and periarticular tissues.

Third—Hemorrhage due to rupture of the anterior vesical veins or veins of the clitoris. These veins are large and numerous, and when ruptured may bleed profusely and even prove fatal to an enfeebled patient.

Fourth—One of the worst features of the operation is the dan-

ger of sepsis. It is impossible to make a clean operation. Sepsis has been of frequent occurrence and often of serious character. Wounds involving bones and joints are more easily infected or offer less resistance to infection than those of other parts of the body.

Fifth—Failure of the bones to reunite, causing much suffering and inability to go about. It is shown by statistics that following Cesarean section the patient is able to go about and attend to household duties several weeks earlier than after symphyseotomy.

Sixth and last of all, the great trouble realized in keeping the patient clean and comfortable after operation.

That the patient in question, although the possessor of a small pelvis, received the proper attention was proven by the result, but if the same patient became pregnant again there would be no less doubt about the result of the next labor than there was in the former pregnancy

There is no doubt that many cases with doubtful pelvis are saved major operations by giving nature a chance. The great number of cases which have been put down as demanding a major operation, where everything has been gotten ready for operation, and in which delivery has occurred spontaneously, demonstrate that each contracted pelvis is a study in itself, and that it is almost impossible to say, except in extreme cases, what the result will be. Our methods of measuring the pelvis give only approximate results, and there is no method of measuring the fetus in utero. For these reasons the management of contracted pelvis will for some time remain in doubt, and the best results will be obtained by conservatism.

Current Literature.

MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

Tropical Dysenteries. Stephen N. Long, M.D. *New York Medical Journal,* 1901, March 30.

Long, in this article, presents the different forms of the disease as actually seen in the Philippines, with a brief description of their etiology, symptoms, pathology, sequelae, prophylaxis, and treatment. The first type which he has considered is fulminating catarrhal dysentery, the most fatal of all the types in which death generally occurs in from four to eleven days. Its causation has been ascribed to Shiga's bacillus. The attack is very sudden, with high temperature, rapid pulse, flushed face, heavily coated tongue, great prostration and rapid emaciation, and with fifty or more bowel movements a day, at first watery, and gradually becoming bloody and slimy. There is great tenderness all over the abdomen, sometimes persistent vomiting, while the autopsy shows the whole large intestine to be one homogeneous, necrotic mass. The second type is simple acute dysentery, starting with diarrhea, and often associated with malarial fever. This form is easy to cure in the beginning, but is liable to become chronic, when the treatment is much less successful. This type of dysentery shows but slight tenderness and no rise of temperature.

The third type can be subdivided into four different classes—(a) the amebic, (b) the trichomonadic, (c) the cercomonadic, (d) the mixed. Of these, the amebic, although not very fatal in the start, is, in the long run, the worst type, with the probable exception of the fulminating type, as it has a tendency to become chronic, is very difficult to dislodge, is especially prone to cause liver abscesses, while perforation of the intestine or metastatic abscesses in other organs also occur. The second, due to the trichomonas intestinalis, is also very obstinate to treatment, while the class due to the cercomonas intestinalis, if associated with the streptococcus, is found to be very fatal. The mixed class, so called, is the one that presents in the stool, besides the ameba, the bacillus pyocyaneus, the staphylococcus, and the streptococcus, this type being especially fatal on account of its complications. The fourth type, the chronic dysentery, although usually a sequela of the acute and amebic forms, is put in a special class because of a different treatment indicated. The fifth type, the gangrenous and diphtheritic, although met only occasionally, is generally fatal, either from perforation and general peritonitis or from toxemia. The sequelae of disentery, met with in the Philippine Islands, are many. First, the chronic type; second,

chronic gastritis and indigestion; third, obstinate constipation; fourth, paralysis of the large intestine; fifth, anemia; sixth, the association with it of malarial fever; seventh, typhoid fever; eighth, neuritis; ninth, atrophic cirrhosis of the liver; tenth, metastatic abscesses of the organs; eleventh, inanition; twelfth, toxemia; thirteenth, dilation of the stomach or intestines. According to Long, most of the patients with liver abscesses die whether operated upon or not. As prophylactic measures, he suggests extreme care regarding cleanliness, eating only food that has been cooked, avoiding exposure to the sun or to the night air as much as possible, watching carefully the condition of the bowels, especially as regards constipation. The treatment is manifold, depending upon the type of the disease. Long mentions but four drugs which he has found of great use in the hospital treatment of patients, and he believes that 80 per cent. or more of the cases of dysentery will be cured with one or more of these drugs if the disease is seen in its infancy. The first thing to do is to put the patient to bed, giving him an ounce of Epsom salts in half a glass of warm water if the case is one of short duration, repeating it the same day if necessary, while in other cases calomel may precede the salts. As regards the method of administering ipecac, he advises the following routine: Put the patient to bed while his stomach is empty; administer from ten to twenty drops of tincture of opium; fifteen minutes later put an ice bag to the head, a mustard plaster to the stomach, and give a hypodermic injection of morphine, at the same time administering not less than forty grains of ipecacuanha by mouth, insisting upon absolute quiet on the back for several hours without food. According to Long, from 60 to 70 per cent. will be cured by one administration, 10 to 20 per cent. by a second dose, and 20 per cent. will require some other kind of treatment. In other cases he advises bismuth subnitrate, forty to sixty grains, every three to four hours, and if this is not enough to check the trouble, associate with this the administration of opium, preferably in the form of Dovers' powder. In cases in which internal medication proves a failure, enemata of hot or cold water, either alone or with a small quantity of silver nitrate (twenty grains to the pint), quinine, tincture of chloride of iron or peroxide of hydrogen. In the case of chronic dysenteries of long standing, half starved and half dead, the best method of treatment is probably the administration of highly nutritious and easily digested food in small amounts at short intervals, or rectal feeding, with occasionally the use of saline enemata, abdominal massage, and the application of hot fomentations.

* * *

The Saline Treatment of Dysentery. Maj. W. J. Buchanan, M.B. *British Medical Journal*, 1901, April 13.

Buchanan reports the results of 855 cases treated by this method, with nine deaths—that is, a mortality of only a little over 1 per cent. As to the question of the relapse, of 753 cases there were 120 that

had relapses. As to the seasonal distribution, August and September had the most cases, July and October next—that is, the disease is more prevalent in the rainy season, from the end of June till late in October. The average length of stay in hospital is from ten to eleven days, although during the last two or three days the patients had normal stools, but were kept in bed for prophylactic reasons. Throughout the year Buchanan pursued the following method of using the salines: One drachm of sodium sulphate to an ounce of aqua feniculi was given for six or eight times a day as the case required; no dose was repeated on the following day till the stool had been inspected; the saline was continued until every trace of blood and mucus had disappeared. In most cases this took place in two or three days, in others they returned on the third or fourth day, necessitating a repetition of the treatment. Buchanan advocates this method for the acute cases only, as he does not consider it a safe method for chronic or relapsing cases with ulceration of the colon. The diet during the treatment of the chronic cases consisted of rice water and boiled milk, while Dovers' powders, the intestinal antiseptics, and anthelmintics were also used. Buchanan especially insists upon the necessity of a careful, daily inspection of the stools whatever be the line of treatment. As to the mortality in this disease, Buchanan believes that the figures usually given (20 to 37 per cent.) are much too high. During the past few years over 60,000 cases of dysentery have been treated in the various jails of India, with a mortality of 7 per cent., which is the same ratio given by Scheube for the dysentery of the Far East. Buchanan's results show the efficacy of his plan of treatment in the acute cases.

* * *

The Specific Treatment of Dysentery. William J. Cruikshank. *New York Medical Journal,* 1901, March 9 and 16.

Cruikshank, after a very careful consideration of this subject, arrives at the following conclusions:

First, that dysentery is a disease of great gravity.

Second, that it is both contagious and infectious.

Third, that it is caused by the introduction into the system through food and drink, also through the air, of a specific microorganism, the identity of which seems to be still in doubt.

Fourth, that dysentery is one disease in whatever latitude it may be found, and the only variations which have any foundation in fact are those which may be based on the intensity of the morbid process.

Fifth, that the majority of the therapeutic agents which have been suggested for the treatment of acute dysentery are useless, and in many cases harmful.

Sixth, that sulphate of magnesium, properly administered, in the acute form of this disease acts as a specific.

ANTITYPHOID INOCULATION. Prof. A. E. Wright. *Lancet,* 1901, February 9.

In this article Wright makes the statement that of the 539 officers, men and women connected with the Fifteenth Hussars, Meerut, India, 360 received protective inoculation in India, 179 did not. Of the former, two came to the hospital for treatment, suffering with typhoid fever, one of whom died (.27 per cent.); in the uninoculated, eleven had typhoid fever, with six deaths (3.35 per cent.). While the numbers of these inoculations are small, they seem to show beyond doubt that the antityphoid inoculations distinctly diminish both the incidence of the disease and its mortality.

* * *

DISINFECTION OF THE URINE IN TYPHOID BACTERIURIA BY MEANS OF UROTROPIN. Schumberg. *Deutsche medicin. Wochenschrift,* 1901, No. 9.

Schumberg opposes the views of Neufeld that after the administration of urotropin the typhoid bacilli disappear quickly and completely from the urine. He added urotropin-urine to typhoid cultures, keeping them in the thermostat for four hours at 37° C. If he now added threads of these organisms to gelatine, to 1 c. c. of which only one-tenth c. c. of urotropin-urine had been added, no growth appeared. If, on the other hand, they were added to simple bouillon, in a few hours the medium became clouded through the development of virulent typhoid bacilli. Schumberg concludes, therefore, that, even after the administration of urotropin, active and virulent typhoid bacilli may be found in the urine, even if the urine appears clear. On this account it is absolutely essential to disinfect typhoid urine with corrosive sublimate or some other disinfectant, and not to depend upon urotropin alone.

* * *

A REVIEW OF THE LITERATURE OF THE THERAPEUTIC USE OF THE *X*-RAYS. Harvey P. Towle. *The Boston Medical and Surgical Journal,* 1901, April 11.

The conclusions which Towle reaches from a consideration of all the literature on this subject are as follows:

First, that the real nature of the *x*-rays is not yet determined definitely, nor whether the therapeutic action following their use is due to the action of the rays themselves or of something of electrical origin accompanying them.

Second, that the treatment is not without danger unless the greatest care is used.

Third, that the effects of the *x*-rays remain for a long time, and recovery is slow.

Fourth, that whatever may be the exact origin of the effects produced, a definite reaction is caused in the skin by the use of the *x*-rays.

Fifth, that the changes induced in the skin are similar histologically to those seen in ordinary infection.

Sixth, that the *x*-rays are not proved to have any bactericidal power.

Seventh, that their therapeutic effect is probably due to the inflammation excited.

Eighth, that hair can be removed by their use, and that lupus and several other diseases can be healed over.

Ninth, that in a few reported cases we may fairly assume that a permanent cure has been effected, but in a majority of the reported cases too little time has elapsed to rule out the possibility of a return of the disease.

Tenth, that the effect of exposure to the *x*-rays is so extraordinarily slow in disappearing that months have elapsed before an absolute cure is assured.

Eleventh, that while the permanency of the cure effected may perhaps be doubtful as yet, it may certainly be desirable to experiment further.

* * *

Remarks on Enteroptosis. Max Einhorn. *Medical Record,* 1901, April 13.

In this article Einhorn gives a carefully-prepared and interesting *résumé* of the observations made in this condition both as regards etiology, symptomatology, diagnosis, prognosis, and treatment. Einhorn first gives Glénard's original definition of this condition as a prolapse of one or usually more of the abdominal viscera, the special organ in the descensus, giving the name to the special condition thus—gastroptosis, nephroptosis, etc. According to Stiller, on the other hand, enteroptosis and nervous dyspepsia are identical; atony is its most constant, often its only symptom. Einhorn is in favor of the word enteroptosis as originally outlined by Glénard. "This will then include a descent of several organs of the abdominal cavity (stomach and colon, one or both kidneys, and occasionally the liver, spleen, etc.). It thus signifies a general tendency for the abdominal organs to prolapse. As to the etiology, Einhorn, Dickinson and Kelly, Bouveret and Wolkow, and Delitzen believe that the corset plays the most import *rôle* in this connection. Dickinson in this connection states "the estimated total pressure of the corset varies between thirty and eighty pounds. The capacity for the expansion of the chest was found to be restricted one-fifth when the corset was on. The thoracic character of the breathing in women is largely due to corset-wearing. The abdominal wall is thin, weakened by the oppression of stays. The liver suffers more from direct pressure, and is more frequently displaced than any other organ. The pelvic floor is bulged downward by tight lacing one-third of an inch," while Wolkow and Delitzen think that the most plausible explanation of the influence of the belt and corset is found in their action upon the shape of the perevertebral spaces. The corset, however, is certainly not the only cause of enteroptosis, as it is occasionally found in women who have never worn corsets, and also in men. Tuffier believes that nephroptosis is one of the symp-

toms of a probably congenital weakness of the tissues, Stiller subscribing to this theory, while Schwerdt considers enteroptosis a constitutional disease. According to Einhorn and to Wolkow and Delitzen, a weakened condition of the abdominal walls appears to be a primary and most important factor in the causation of enteroptosis. As to the frequency, Glénard gave it as 12.7 per cent. upon the examination of 3788 patients, while it was about eight times as frequent in women as in men. Other authors give as much as 30 per cent. as the frequency of movable kidney in women. Einhorn gives a most interesting table in this connection of all cases seen by him during the past year, 1912 in all (1080 males and 832 females). Among these there were encountered seventy cases with ptosis of the abdominal viscera among the men, and 277 among the women. Most of the cases of enteroptosis were accompanied by movable kidney. Einhorn's tabulated results should be referred to by anyone especially interested in the subject. After stating the well-known fact that the condition may exist without giving rise to any symptoms, Einhorn gives a brief description of the symptomatology, the fatigue and backache, dragging sensation, flatulence, constipation, frequent micturition, followed by a description of the objective symptoms, the tendency of the patients towards thinness, the flaccid abdominal walls, the ease of palpation with the discovery of the displaced organ. The diagnosis is, of course, easy, and should never be mistaken if careful abdominal examination is made. As to the treatment, Einhorn insists that the principal part consists in the application of a well-fitting abdominal supporter, ample nutrition, and exercise, although he pays no attention to special pads for the kidney, liver, etc. According to Einhorn, ample nutrition is important, perhaps more so than the bandage, while he recommends outdoor sports as an especially important factor in strengthening the abdominal muscles. Massage he recommends only in cases with mild enteroptosis, while electricity he believes to be of service in cases where there are manifold functional disturbances of the stomach. The drugs he recommends are iron and arsenic for anemia, and the bromides if great nervousness is present.

* * *

BUBONIC PLAGUE. Joseph J. Curry, M.D. *Boston Medical and Surgical Journal*, 1901, March 21.

In this article Dr. Curry furnishes a report on the plague of Manila from the 1st January to the 30th June, 1900. His conclusions as to results and methods are as follows:

The plague bacilli are not found in the blood until late in the disease, except in the severe fulminating type, rendering blood cultures therefore unsatisfactory. An early diagnosis is also not obtainable by the agglutination test. Dr. Curry believes the most satisfactory method to be by means of aspiration of one of the swollen glands with a sterile hypodermic syringe, and, from the

material thus obtained, to make cultures, slide preparations and animal injections, as the plague bacilli occur in large numbers in the glands even early in the disease. The bacteria found are short bipolar bacilli, decolorized by Gram's method. If the case is one of plague, the injected animal is either dead or very sick by the second day. In the pulmonic type of plague, on the other hand, the bacilli are found in enormous numbers in the bloody expectoration, and are easily recognized in slide preparations from this source. In cases beginning with chill the diagnosis from malaria is made by the absence of the malarial parasite and the presence of a marked leucocytosis.

In Manila, from January 1 to June 30, 1900, there were recognized 225 cases of the bubonic plague, with 167 deaths—that is, a mortality of 74 per cent. The cases were almost entirely Chinese and natives, but two Americans being infected. As the femoral and inguinal glands, especially the right, were the first to be enlarged, Curry thinks that there is a possibility of the introduction of the plague bacilli through infection from areas adjacent to the crotch, where the Dhobie itch is very common among the natives. Possibility of the spread of the plague by fleas and mosquitoes must also be considered, and almost all cases of plague which came to autopsy showed evidences of bites from these pests.

PATHOLOGY AND BACTERIOLOGY.

Under the Supervision of José L. Hirsh, M.D., Baltimore.

THE TREATMENT OF TUBERCULOSIS BY CLIMATE. C. T. Williams. *British Medical Journal.* July 27, 1901.

Williams classifies climates into (1) Marine climates; (2) dry, warm climates, partly inland and partly marine; and (3) mountain climates. It is believed that high altitudes are the best. The following conclusions are drawn in reference to high altitudes:

1. That the respiration of the rarefied atmosphere produces hypertrophy of the healthy lung and local emphysema around the tuberculous lesions, giving rise in due time to thoracic enlargement; 2. That it is possible that the arrest of tuberculosis is at least partly due to the pressure exercised on the tuberculous masses by the increasing bulk of the surrounding lung tissue, which, by emptying the blood-vessels, promotes caseation and cretification of the tubercle; 3. That these changes are accompanied by general improvement in digestion and assimilation, the cessation of all symptoms of disease, the return of natural functions, and gain of respiratory and circulatory power; 4. That arrest of disease takes place in 58 per cent. of cases, and great improvement in 87 per cent. 5. That the climate is especially beneficial in hemorrhagic tuberculosis in which hereditary predisposition is especially

marked, and is well suited to chronic tuberculosis of the lungs in general, provided the extent of lung involved is not too large or the disease accompanied by much fever; 6. That males and females seem to do equally well and to profit most between the ages of twenty and thirty; 7. That the climate is contraindicated in acute tuberculosis, catarrhal tuberculosis, laryngeal tuberculosis, in most cases of tuberculosis accompanied by great nervous irritability, in patients with double cavities, with fibroid tuberculosis, and in all patients whose pulmonary surface has been so much reduced from any cause that it does not suffice for complete respiratory purposes.

* * *

The Rapid Diagnosis of Typhoid Fever by Means of Piorkowski's Urine-Gelatine Cultures. Bischoff and Mencer. *Zeitschrift f. Hygiene in Infcks. krankht., Bd.* XXXV, 1900, p. 305.

Bischoff and Mencer examined the method of Piorkowski for the diagnosis of typhoid fever. They consider the preparation of the medium even by experts to be rather difficult. Large quantities of the culture were often found useless, and they always took the precaution to test freshly-made medium with pure typhoid cultures, and used it for their experiments only when, after from fifteen to twenty hours, typical typhoid colonies were found. Their experiments showed that the 3.3 per cent. of urine gelatine was the best; that upon it not only the superficial, but the deeply-grown colonies took on a characteristic appearance. This characteristic appearance, however, was not shown by all the colonies. On plates of pure cultures at least one-third of the colonies showed an atypical growth. The characteristic colonies were shown not only by the typhoid bacillus, but several varieties of the colon bacillus were difficult to differentiate from the typhoid bacillus. This form of colon bacillus was not found in the stools of healthy persons, or of sick people who were not suffering from typhoid. The authors consider it impossible to make a diagnosis by a mere examination of these plates; the suspicious colonies must be isolated and examined by means of other culture material. Therefore a rapid diagnosis by this means is impossible.

* * *

A Case of Measles Combined with Acute Pemphigus. Heubler. *Deutsch. med. Wochenschr.*, No. 33, 1900.

After being sick with measles for three days, a three-year-old girl developed pneumonia. A few days thereafter there appeared upon the mucous membrane of the lip a few white vesicles, which were followed by similar vesicles upon the shoulder and abdomen. There developed a general pemphigus, the face and head, however, remaining free. The abdomen was most affected, its entire surface being covered with small vesicles and scabs, similar to a severe burn. The disease proceeded with very severe symptoms, ending, however, in recovery. The treatment consisted in powdering with zinc oxide, and later applying boric acid salve.

PRIMARY TUBERCULOSIS OF THE PERICARDIUM. David Riesman. *Am. Jour. of Med. Sciences,* July, 1901.

From a point of view of etiology, tuberculosis of the pericardium may be divided into the following forms: (a) That which is a part of a general miliary tuberculosis; (b) that associated with general serous membrane tuberculosis (tuberculosis polyserositis); (c) that due to extension from neighboring organs, as the lung or pleura, peribronchial lymph glands, bones, etc.; (d) that developing independently.

The author reports a case of a man, thirty-two years old, with no family history of tuberculosis, who showed at autopsy a tubercular pericarditis of primary origin. The salient conclusions drawn from a study of this case and the literature on the subject are as follows:

1. Tuberculosis of the pericardium is comparatively common.
2. It may be primary in the clinical, rarely in the pathological sense, or it may be secondary.
3. The primary form is either a hematogenic infection, or is the result of extension by contiguity from some trivial focus.
4. The most frequent source of infection is a tuberculous mediastinal or bronchial lymph gland.
5. The primary form is usually chronic, and appears as an obliterative pericarditis.
6. In a large percentage of cases there is an associated mediastinitis, with adhesions to pleura, sternum and ribs.
7. The symptoms are those of adherent pericarditis or mediastino-pericarditis.
8. In every case of obliterative pericarditis of obscure origin tuberculosis should be suspected, particularly if there are no endocardial murmurs.
9. The diagnosis of tuberculosis of the pericardium can usually be made only by excluding other causes, except in rare instances of successful animal inoculation with fluid obtained by tapping a pleural cavity.
10. Tuberculous pericarditis may not present any characteristic features at autopsy; hence microscopical examinations should be made in every case of adherent pericardium before tuberculosis is excluded.

* * *

AN ADDRESS ON THE FIGHT AGAINST TUBERCULOSIS IN THE LIGHT OF THE EXPERIENCE GAINED IN THE SUCCESSFUL COMBAT OF OTHER INFECTIOUS DISEASES. Robt. Koch. (Delivered before the British Congress on Tuberculosis. *American Medicine,* July, 1900.

Koch's address has caused considerable comment in the medical journals, due chiefly to his statements as to the relation of human

and bovine tuberculosis. Should his views on this subject be proven true it will completely upset the opinions which have been taught for the past two decades.

In his remarks the author first laid great stress on the well-established fact that tuberculosis is a preventable disease, and as the disease is due to a parasite, it can be annihilated as the other parasitic enemies of mankind. But all pestilences are not to be treated similarly, but according to its specific individuality. The bubonic plague is to be treated by first attacking the centers of infection and the real transmitters—the rats. In combatting cholera the source of danger lies in the water; hydrophobia may be largely controlled by compulsory muzzling; in leprosy immediate transmission from person to person has been shown to play the main part, and consequently isolation of the lepers is the most effective measure of controlling the disease. Likewise to eradicate or control tuberculosis the first problem for consideration is how infection occurs in this disease. As may be supposed, he places the sputum of infected patients as the chief source of infection. The bacilli get into the air in the little drops of sputum coughed or sneezed out by the tubercular subject; hence by far the majority of cases of tuberculosis has its seat in the lungs, even if not limited to them. The hereditary transmission of tuberculosis must be extremely rare.

The other possibility of tuberculous infection—the transmission of the germs of the disease from tubercular cattle to man—occupied the greater and most important part of the author's remarks, for it is here that his opinion deviated from the generally accepted views. According to him, there is little to be feared from the consumption of milk and meat of tubercular cattle, since the disease as it appears in cattle, even if not essentially different from human tuberculosis, still cannot be acquired by man. His conclusions are based on a series of experiments carried out during the last two years at the Veterinary College in Berlin. The following are among the most important experiments:

"A number of young cattle which had stood the tuberculin test were infected in various ways with tubercle bacilli taken from cases of human tuberculosis. Some of them got the tuberculous sputum of consumptive patients direct. In some cases the tubercle bacilli were injected under the skin, in others into the peritoneal cavity, in others into the jugular vein. Six animals were fed with tuberculous sputum almost daily for seven or eight months; four repeatedly inhaled great quantities of bacilli, which were distributed in water, and scattered with it in the form of spray. None of these cattle (nineteen in all) showed any symptoms of disease. From six to eight months after the beginning of the experiments they were killed. In their internal organs not a trace of tuberculosis was found. The animals were insusceptible to the human tubercle bacilli. However, when similar experiments were made

on cattle, free from tuberculosis, with tubercle bacilli that came from the lungs of an animal suffering from bovine tuberculosis the results were different. After an incubation period of a week the severest tuberculous disorders of the internal organs broke out in all the infected animals. The results were all the same, whether the infecting matter had been injected only under the skin or into the peritoneal cavity or into the vascular system. After death extensive tuberculous infiltrations were found at the place where the injections had been made and in the neighboring lymphatic glands. The cattle proved just as susceptible to infection by the bacillus of bovine tuberculosis as they had proved insusceptible to infection by the bacillus of human tuberculosis."

Another series of experiments consisted in feeding swine with the sputum of tuberculous patients, while other swine received the bacilli of bovine tuberculosis with their food. The former contined to remain healthy, while the latter became sickly, and half of them died. From these facts Koch concludes that human tuberculosis differs from bovine, and cannot be transmitted to cattle. The question of the susceptibility of man to bovine tuberculosis remains an open one; still Koch assumes from the fact that primary tuberculosis of the intestine in man is comparatively rare, notwithstanding the fact that numerous bovine tubercle bacilli must be taken into the stomach with the dairy products of infected cattle, that the bovine bacilli are harmless to man. He says "that a case of tuberculosis has been caused by alimenta can be assumed with certainty only when the intestine suffers first—that is, when a so-called primary tuberculosis of the intestines is found. But such cases are extremely rare."

In order to differentiate bovine from human tubercle bacilli all that is necessary is to cultivate the bacilli from tuberculous material in pure culture, and inoculate cattle to see if it belongs to the bovine type. Koch concludes his address with a strong plea for hospitals and sanatoria for consumptives. He regards obligatory notification as specially valuable, and the disinfection of the residences of consumptives of great importance.

Leonard Pearson (*Philadelphia Medical Journal,* August 3, 1901) takes issue with the statements of Koch. He states that in experiments performed under the auspices of the Pennsylvania Live-Stock Sanitary Board animals fed on tubercular material developed tuberculosis of other organs without the intestines being primarily involved. Again, a number of men have contracted tuberculosis from infections sustained in making post-mortem examinations on tubercular cattle. These cases show that under certain conditions bovine tubercle bacilli may be virulent for man.

Ravenel also has made interesting observations in this line, and we may expect soon to hear from him on this important subject.

Society Reports.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD AT BALTIMORE APRIL 19, 1901.

Dr. J. Whitridge Williams: "The Problems Involved in the Treatment of Eclampsia, with Illustrative Cases."

Ever since Leber demonstrated the presence of albumen in the urine in these cases we have been accustomed to consider albuminuria and eclampsia as associated conditions. It has been shown, however, in a long series of cases, that in many instances albumen is not present in the urine until after the eclampsia occurs, and autopsy has shown in many cases that there was no evidence of renal disease. A few years ago a number of persons demonstrated that lesions of the kidney were not always present, and not necessary to eclampsia, but that lesions in the liver were more constant, and that they were usually of the nature of a focal necrosis; they might be present in other organs as well. Since that we have been obliged to recast our ideas as to the etiology of eclampsia, and must now consider it to be an intoxication of some kind. The problem is to discover the nature of the toxemia. Something of a poisonous nature is circulating in the blood, but as yet we have not been able to demonstrate any particular substance that will produce these lesions.

The great interest in a practical consideration of the question is two-fold—first, how can we prevent its occurrence; and, second, how can we treat it best when it does occur. The second question is, to my mind, more readily answered than the first. The outlines of treatment are those upon which we are pretty well agreed, namely, delivery as soon as possible, free bleeding, and the introduction of salt solution into the veins directly or under the skin.

A most important practical question is the recognition of cases in which eclampsia is liable to occur, in order that we may take steps to prevent it. This is a difficult problem, and I am sure that after I have concluded you will be less certain of your knowledge than when you came here. This time last year I thought I knew a great deal about eclampsia, and I wrote an article on the subject for a German encyclopedia of medicine; but I have had a number of experiences this last year that have shattered my belief in myself and in my knowledge as to when eclampsia is going to occur in any given case. You will hear a good many men say that if you give them the care of a pregnant woman early, eclampsia will not occur, and that when it does occur under such circumstances it is the fault of the physician. Of course, the man who does not regularly examine the urine is open to censure; but, on the other hand, even when we examine the urine every day in a given case, convulsions may still occur when we least expect them.

The three means for detecting the possibility of eclampsia are the detection of albumen in the urine, the demonstration of the presence of casts, and a change in the amount of urea. Finding these, you know some things

to do—for instance, to give milk and water in large quantities. In many cases your patient will do well, in others she will not. To the last class of cases I want to call your attention.

Here is the chart of a woman whom I saw in private practice. Her urine was examined at regular intervals, and was perfectly normal up to six weeks before term. At that time I found a trace of albumen in the specimen, and asked that the urine for the next twenty-four hours be saved. To my surprise she passed less than 600 gm., and about 1 gm. of albumen in the twenty-four hours. She was at once put on milk diet, with a happy result so far as the increase of urine was concerned. It went up to 4600 c. c., and coincident with this there was a satisfactory increase in the amount of urea. Right here I should say that I consider the statements in the text-books regarding the normal amount of urea to be incorrect. As a result of examination in a number of cases we find it to be about 22 gm. in the twenty-four hours. Dr. Whitney, at the Maryland General Hospital, tells me that he has found it in their institution to average 16 gm. The text-books run it up as high as 32 gm. Of course, differences in the class of patients must be considered in this connection. To return to our case, with the increase in the amount of urea to normal there was also a constant increase in the amount of albumen, so that on the day before delivery there was 7.5 gm. of albumen in the day's urine. I stood ready to interfere at a moment's notice, but she was delivered without trouble. The percentage of albumen, however, continued to increase until it reached 12.5 gm. a week after delivery, when it began to fall gradually. As the albumen diminished there was a marked increase in the amount of urea, which had stood stationary until after delivery. It suddenly shot up until she was passing 70 gm., an amount I have never seen equaled. Why she continues to pass this large amount of urea I am unable to tell you.

Here is the chart of another case of very considerable interest. The woman entered the Hopkins Hospital pregnant for the first time. There was a little albumen in the urine and a few casts. She felt pretty well, and, in spite of the low percentage of urea, did well for a time, but soon began to have headaches associated with nausea and vomiting, and, although milk diet was instituted, the urea diminished to 5 gm. in twenty-four hours. She was nearly at term, and we decided to deliver. Both mother and child have done extremely well. She was delivered on February 28, and the next day the urea passed above the normal amount, and the albumen disappeared completely. That was a very satisfactory case and is the sort we frequently see.

The next case bothered us considerably. She entered the Hopkins last September with the history of a very difficult labor and eclampsia two years previous. She was not feeling badly at the time, but was much worried. The urine was found to have casts, but no albumen. The amount of urea was small, and she was placed upon milk diet. The albumen soon disappeared. As the urea dropped she began to have disagreeable halucinations, and the amount of urea did not increase on the milk diet. She fell into labor later and delivered the child spontaneously. The next day the urea rose to 38 gm., and from that time on remained at a high level. The

results in these cases were very satisfactory, but we were always in doubt as to what ought to be done.

Here is a case that was very instructive to me. The urine had been examined at regular intervals, and suddenly showed albumen, with only 15 gm. of urea. She was put on milk diet, and the amount of urea and albumen both increased. On one day the urea reached 24 gm., and that night she had an attack of eclampsia, with several convulsions. She was delivered and made a good recovery. This case shows very clearly that no matter how carefully you study your cases they may suddenly, with a practically normal amount of urea and a very slight amount of albumen, have an attack of eclampsia without any warning.

I want to say that we cannot lay down a definite rule for action, but if the woman seems to do well, even with a comparatively low urea percentage and a considerable amount of albumen, I leave her alone, but stand ready to interfere at the slightest sign of danger. I believe that is the best we can do at present, for we have no ready method of estimating the total output of nitrogen, and the ordinary estimate of urea does not give us a satisfactory index as to the condition. Probably in a few years we may have an index of more practical value, but just now the question is extremely unsatisfactory, and, as I said before, I know far less about eclampsia now than I thought I did this time last year.

Dr. Pierce Kintzing: "A Contribution to the Causation of Eclampsia."

Dr. Kintzing reviewed the numerous theories which have been advanced since the earliest times, especially since Leber announced the connection between albumen and eclampsia in 1842. The evidence against albumen as a causative agent was given particular attention. The renal-insufficiency theory, he thought, did not account for the pathological lesions. It was pointed out that sugar is sometimes found in these cases, and he cited two instances occurring in his own practice and four other reported cases. The liver degeneration as pointed out by Tarnier and others was described, and an attempt made to determine the nature of the destructive poison in the circulation. In four of Skelton's cases acetone was found. The author cited two cases of his own, in one of which acetone was found in abundance. He suggested that acetone or some allied substance, if not itself the destructive agent, might be the index of the poison in the circulation.

Dr. Dobbin: I have been very much interested in this subject, for I had the privilege of preparing these charts. I think it is pretty generally conceded that a low line of urea is of more definite character than a high line. The high curve will not necessarily mean that the woman is not in a bad condition, whereas the low curve does indicate that the woman is in a dangerous condition. That was particularly well shown in the case of a woman who came in several months before delivery. She had a slight diminution in the amount of urea, with a decided increase in the albumen, and was put on treatment. She improved so that we thought she would have no trouble. She went into normal labor and was delivered within four or five hours. A half-hour later she had severe convulsions, was

treated for the next three or four days by all of the known means, but got steadily worse, and died five days after delivery.

Dr. Gardner: I am very glad to see that Dr. Williams takes this view of the subject, that you cannot make a definite prognosis in eclampsia, because, with his ability and his facilities for investigation, it is highly probable that some time soon he will be able to tell us something more definite about its etiology. Something over ten years ago, after making a long series of examinations of the urine of pregnant women, I read a paper before this society in which, as a result of that work, I expressed practically the same conclusions that Dr. Williams has given tonight, namely, that there was absolutely no defined relationship between albuminuria and eclampsia. My views were very much criticised at the time.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD MAY 20, 1901.

THE meeting was called to order by the president, Dr. Welch.

Dr. Osler exhibited some medical cases, the first being one of splenomegaly with hepatic cirrhosis. The patient, a laborer, thirty-seven years of age, was admitted to the hospital complaining simply of abdominal pain of a cramp-like character, just under the ribs of the right side. The first attack occurred ten days before entrance to the hospital, and the man had continued at his work during that period. There was no fever, slight jaundice and occasional attacks of vomiting. Physical examination showed a markedly enlarged spleen with a small liver. There was no anemia, and the blood examination was practically normal.

Dr. Osler considered the several different conditions in which we may have splenomegaly with cirrhosis of the liver. He said that in the first place it is the rule in cirrhosis of the liver to have a big spleen, and in a few rare instances in ordinary cirrhosis from alcohol the spleen reaches an enormous size. Secondly, in all cases of hypertrophic cirrhosis, such as occur in young children and persons without alcoholic history, with no ascites and a slight permanent jaundice, there is enlargement of the spleen, which may sometimes equal or even exceed that of the liver. Thirdly, there is a group in which there is primary enlargement of the spleen associated with slight but charasteristic anemia, and sometimes without any other symptoms. This condition, known as Banti's disease, presents an anemia of the chlorotic type, and cirrhosis of the liver is a late sequence.

Dr. Osler referred to two cases of splenomegaly which had been operated upon in the Hopkins Hospital, in both of which the condition had existed for six or eight years, and in one of which the hemorrhages had frequently threatened the patient's life. One of these cases died under operation from uncontrollable hemorrhage; the other recovered, and is alive and well.

Case 2—*Scorbutic Scleroderma.*—Scurvy is not an unusual condition in this country, especially among the newly-arrived immigrants, but this is an unusual complication. In addition to slight subcutaneous hemorrhages there was a considerable hemorrhagic exudate in the knee-joint. The swelling was such as to render it impossible to pick up the skin over that joint, and aspiration of the joint showed bloody fluid. The patient had been in this country only about a year, was working at Locust Point, and had eaten practically nothing but bread and meat during his residence here.

Dr. Howard Kelly described a new method of securing drainage of the bladder, and made a strong plea for regular cystoscopic examinations in all cases of cystitis. The importance of such examinations was shown in the relation of three cases recently seen at the hospital, which had been under treatment for prolonged periods as cases of cystitis, and in all of which examination at once showed the presence of stones, which, when removed, allowed the prompt cure of the bladder inflammation.

The method of draining the bladder described by Dr. Kelly was about as follows: The patient is to be placed in the knee-chest position and the bladder allowed to fill with air. As it enlarges its corrugations disappear, and when the anterior vaginal wall is exposed we have to deal with a thin septum instead of the thick one met with in the ordinary bladder operations. A special knife devised for this purpose is plunged through the bladder wall about its middle, and the incision may be enlarged down to the internal orifice of the urethra.

The operation can be done under cocaine without pain. There is no danger of injuring the opposite wall of the bladder, and the incision can be enlarged *ad libitum.*

Dr. O. J. Porter of Columbia, Tenn., presented some observations on the recent epidemic of smallpox in his State, and exhibited a most interesting collection of plaster casts which he had prepared from smallpox patients seen during this epidemic, and followed this with a stereopticon exhibit of photographs taken of these same patients. Inasmuch as medical students, and even practicing physicians of the present day, so rarely have the opportunity of seeing cases of smallpox, this demonstration was most instructive as well as interesting.

Dr. Fulton exhibited a few lantern slides prepared from photographs taken of recent smallpox patients seen in Maryland, and, with Dr. Osler and Dr. Welch, congratulated the State of Tennessee on the possession of such an enthusiastic and skillful medical observer as Dr. Porter.

Dr. Porter remarked that the recent epidemic of smallpox in nowise differed from the typical smallpox of history, and that though there were undoubtedly many cases of a mild character, especially in the early days of the epidemic, there was no evidence that the disease was of a modified form or due to an attenuated micro-organism. All forms of the disease, the discreet, the confluent and the malignant hemorrhagic, were seen sometimes in the same family, and as the contagion was traced these forms seemed to be interchangeable. H. O. R.

Book Reviews.

Syphilis and the Venereal Diseases. By Jas. Nevin Hyde, A.M., M.D., and Hugh Montgomery, M.D. Second edition, revised and enlarged. Price $4 net. Philadelphia: W. B. Saunders & Co.

This work, written not for the expert, but more for the student and general practitioner, deals with syphilis and its numerous complications—chancroids, urethritis (acute and chronic), balanitis, and herpes progenitalis, etc. As the title indicates, the work is largely taken up with the discussion of syphilis. The authors hold, and statistics substantiate them, that the classical division of syphilis into three definite stages or periods is the exception rather than the rule, many cases occurring in which the tertiary succeeds the primary, no secondary stage intervening; others, again, in which the secondary follows the tertiary, and often cases in which the tertiary follows with terrible rapidity the primary venereal sore. As an aid to the student in the study of the excursions of this disease the authors offer four general radii along which the manifestations of the affection may be traced—namely, benignant syphilis, with mild and transitory symptoms; benignant syphilis, with relapsing or persistent superficial symptoms; malignant syphilis, with relapsing or persistent profound symptoms, and malignant syphilis, with relapsing or profound lesions that are ultimately destructive. No case, of course, falls entirely under one of the above heads, for the course of the disease is too tortuous and deflected, but between its extremes most cases will come, and it is perhaps more logical than the old classification. Especial attention is paid to the dermatological aspects of the disease. The clinical and pathological descriptions are exhaustive and accompanied by instructive illustrations. They lay much stress on the hygienic treatment of the disease, believing that proper digestion and assimilation are as essential to a cure as mercury and potassium iodide. A chapter on syphilis in relation to the family and society emphasizes the well-known but too often neglected fact as to the contagiousness of the disease and the infection of the innocents.

The authors hold that chancroids are probably due to a specific microorganism, the bacillus of Ducrey. They think, however, that the proof is not absolute, but that it is as complete as that for Lustgarten's bacillus, the supposed organism of syphilis. [From a review of the literature of the subject we consider that the recent work on chancroids leaves no doubt as to the existence of Ducrey's bacillus, or as to its being the causative organism of chancroids and chancroidal buboes. This bacillus has been found in chancroidal pus, in the deeper tissues of the chancroidal sore, and has been obtained in pure culture from the pus of the sore. It has also been found in the pus from chancroidal buboes, obtained in pure culture from that pus, observed in the tissues around the bubo, and, finally, chancroids have been produced by inoculation with pus from a bubo. In view of these facts it is a pity that the specificity of the chancroidal organism is still doubted, and that the same attention is not paid to it as to the gonococcus. On the other hand, it may be well to state that Lustgarten's bacillus, the supposed causative organism of syphilis, has so far lacked all substantiation.] An excellent differential table is given between chan-

croids and chancre, herpes progenitalis and the other local genital lesions not necessarily venereal.

Gonorrhea is treated with great attention to detail, which makes the work a valuable one for the young practitioner. As regards treatment, the authors evidently believe more in internal medication than in irrigation in the acute stage of that disease. Only a few pages are devoted to the important subjects of cystitis, pyelitis and prostatic affections. The bacteriology and pathology of these diseases are practically unmentioned, and it is surprising to see the hurried and imperfect way in which the authors skip over these troubles. The modern methods of bladder and kidney investigation by means of the cystoscope and ureteral catheter are only aluded to. These important deficiencies detract considerably from the otherwise high standard of the work. A few pages are devoted to gonorrhea in the woman, while a chapter on hypochondriasis presents many points in relation to the physiological and psychological changes in the sexual affections. J. H.

Atlas and Epitome of Ophthalmoscopy and Ophthalmoscopic Diagnosis. By Prof. O. Haabe of Zurich. Translated from the third German edition and edited by Geo. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia. With 152 colored illustrations. Price $3.50. Philadelphia: W. B. Saunders & Co.

A most welcome work. In the choice of subjects illustrated, and in their artistic execution, it is superior to some of the larger and more expensive atlases—a fitting companion to the Atlas of External Diseases of the Eye, by the same author, and reproduced in English under the same editorship. Indeed, these two little books give the student of ophthalmology a very comprehensive idea of the diseases of the eye. The descriptive text accompanying the illustrations is brief, but very pertinent, and, with the comments by the editor, is of great value. The twelve colored plates, showing the microscopic lesions in the more important pathological conditions, are worthy of special mention, since, taken in connection with the ophthalmoscopic appearances, they help the student to attain a better understanding of the disease process. We heartily commend the book to all who are interested in the subject. H. O. R.

The Practice of Medicine. By James Tyson, M.D. Second edition. Philadelphia: P. Blakiston's Son & Co. 1900.

In this, the second edition of this well-known text-book of medicine, much new matter has been introduced, especially in the sections on infectious diseases and diseases of the nervous system, Dr. Spiller rendering valuable assistance in this latter connection. Especially valuable are the historical notes on many of the diseases, and the care given to the sections on their treatment.

The book is well written and comprehensive, and undoubtedly deserves all the success it has obtained. B.

HARRINGTON'S PRACTICAL HYGIENE. For Students and Practitioners of Medicine and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in Harvard Medical School, Boston. In one handsome octavo volume of 718 pages, with 105 engravings and 12 full-page plates in colors and monochrome. Cloth, $4.25 net. Philadelphia and New York: Lea Bros. & Co. 1901.

The present reviewer is inclined to praise this book very warmly. It comes into quite a noticeable gap in American medical literature, and would be welcome if it were not what it is—a remarkably good book. Among the American and English text-books of the subject none is better planned or better executed. The preparation of a students' manual on so broad a subject as modern hygiene is a particularly difficult task, and Harrington owes his success as much to his discrimination of subjects to be omitted as to clearness and reasonable fullness in his treatment of essential topics.

Bacterial species and bacteriological technique are properly omitted, as also the nature of building materials, and the construction of hospitals, sewers, water-works, etc.

The longest chapter is the first one, which treats of Foods in 206 pages, under eight separate heads. Here, as in succeeding chapters, methods of examination are clearly described and well illustrated. There are also excellent tables, supplying various needs of laboratory workmen.

Equally good, though considerably shorter, are the chapters on Air, Soil, and Water. The chapters named make up more than half the book, the remaining 300 pages being fairly distributed to the following subjects: Habitations, Sewage, Garbage, Disinfection, Quarantine, Military, Naval, Marine and Tropical Hygiene, Hygiene of Occupation, Vital Statistics, Personal Hygiene, Vaccination, Disposal of the Dead.

The book is thoroughly practical, comprehensive, and up to date. It should promptly take and keep a foremost place among books of its class.

NURSING ETHICS. For Hospital and Private Use. By Isabel Hampton Robb. Cleveland: J. B. Savage. 1901.

This little book, by a clever and accomplished woman, treats of matters not included in the ordinary course of instruction; not indispensable, perhaps, to satisfactory performance of a nurse's duty, but none the less essential to the nurse's character and success, and to the maintenance of that dignity to which her calling has risen.

Qualities developed quite outside of professional training, qualities that thrive best in women, and that a few women have particularly exemplified, have compelled the recognition of nursing as a profession. Cultivation of the character-building virtues must go hand in hand with daily drill, if the tardily-acknowledged status of the trained nurse is to be kept secure.

The ranks are growing rapidly—too rapidly, and it is from the ethical point of view that one regards the rising tide with some misgiving. Miss Hampton's book is most timely, and apt to its purpose.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth; pp. 460, with 81 engravings and one full-page plate. Vol. II, June, 1901. Issued quarterly. Price $10 per year. Philadelphia and New York: Lea Bros. & Co.

The scientific and practical interest of this publication is fully maintained by this the second volume of the series for 1901. There are four articles, each written by an acknowledged authority. The first, by Wm. B. Coley, pretty well covers the field of abdominal surgery, describing fully the operative treatment of intestinal perforations and of gastric ulcer, the radical cure of hernia, the surgery of the spleen, the pancreas, the liver, and the appendix.

John G. Clark contributes the section on gynecology, giving special attention to those phases of the subject which are just now of liveliest interest, as the etiology of cancer, the relation of pelvic disorders to mental disturbance, cystoscopy in women, the diagnostic value of pain, myoma uteri, and his own excellent work upon the circulation of the ovary.

Alfred Stengel contributes an article on diseases of the blood and ductless glands, the hemorrhagic diseases, and metabolic diseases. The parts of this article which treat of diabetes, gout and rheumatoid arthritis are of special interest.

The last article is upon ophthalmology, and is by Edward Jackson.

INTERNATIONAL CLINICS: A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose, and Throat, and Other Topics of Interest to Students and Practitioners by leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., with a corps of collaborators and regular correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume II. Eleventh series. Philadelphia: J. B. Lippincott Company. 1901.

Among the twenty-six articles in this, the second volume of the eleventh series, one selects as of especial timeliness, or particular interest, two articles on Spinal Cocainization, by Tuffier and Doléris of Paris; one on Smallpox, with Particular Reference to the Prevalent Epidemic, by Jay F. Schumbey of Philadelphia; Croupous Pneumonia, by James Tyson of Philadelphia; three articles on Locomotor Ataxia, by H. S. Frenkel of Heiden, M. Allen Starr of New York, and A. Fournier of Paris; an article on Resources in Narrow Pelvis, by R. C. Buist of Dundee.

The book concludes with a list of the newer medical words, with their pronunciation and definition.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M.D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, OCTOBER, 1901.

THE CENSUS STATISTICS OF MORTALITY.

SOME general results of a study of the mortality statistics of the country for 1900 are published in the *Census Bulletin* for August 20 by W. A. King, Chief Statistician for Vital Statistics. A striking feature of this report is found in a decrease of 1.8 per thousand in the mortality rate, giving a gain of nearly 10 per cent. over the census figures for 1890. The census of 1890 gave as the mortality rate in 271 registration cities, of 5000 or more population, 21 per thousand; the present census gives 18.6 per thousand as the rate for 341 cities of 8000 and upward, a gain of 2.4 per thousand, or over 11 per cent. in ten years. The average age at death, we are told, was, in 1890, 31.1 years; in 1900, 35.2 years.

Such encouraging figures have naturally been widely quoted, and are no doubt generally trusted by sanguine Americans. The profits are generously ascribed to advances in preventive medicine, and doctors are perhaps expected to accept the figures quite complacently. If, however, gains in the past ten years of 10 per cent. in general mortality and 12 per cent. in average duration of human life are earnest of the things that we shall have to do in the next ten years, the burden of the future will overwhelm us. We had better examine the smooth prophecy.

It is highly probable that we have not done, and it is certain that we shall never do, such remarkable things as are here imputed to us. If the figures for 1900 are correct, so much the worse for the figures of 1890. If the figures for both years were correct, the deductions would still not be entitled to credit, for such information is not properly sought by comparing one year with another.

But the figures are not correct, nor nearly so, and the sources of error are quite apparent. The estimates are based upon the returns of so-called registration areas. Of these there are ten, and of the ten but four possessed records for 1900 sufficiently complete and full to enable the Census Bureau to dispense with the enumerators' returns. These four areas (New Hampshire, Massachusetts, Rhode Island and Connecticut) include but one-fourth of the population accounted for under the head of "Registration States." In other words, in three-fourths of the "registration areas" the returns of deaths for a year were collected by the enumerators at the end of the year better than the registration officials collected them, being required by law to record each death at the time and place of its occurrence. Six of the ten "registration States" must have been very bad if the enumerators could equal or excel the registration officers in approximating the dates, places, and number of deaths for a whole year. Would you call your spade a spade if you preferred to dig with a spoon?

Besides these ten "registration areas," the basis of these flattering computations includes 153 cities of 8000 or more population, situated in non-registration States. By this means the number of people taken into the

account is raised to 28,807,269, and the ratio of the real registration area to the "registration area" of the Census Bureau is no longer 1 to 4, but 1 to 6. The returns of registration cities in non-registration States are no more entitled to admission into the statistics than are the returns of "registration" States whose official records can be bettered 20 per cent. by enumerators' returns. A cursory comparison of the two lists will show that the returns of cities in non-registration States are generally unreliable. Among "registration cities" in non-registration States, whose returns are admitted into the census statistics, a considerable number, some of the first-class, are credited with rates of 10 per thousand or less. The lowest mortality credited to a registration city in a "registration" State is 12.2 for the little town of Muskegon in Michigan. Among cities in real registration States the lowest rate is that of Brookline town, Massachusetts, 13 per thousand. It is entirely probable that such cities as Chicago, Denver, Minneapolis, St. Paul, Indianapolis, Cincinnati, Cleveland, Detroit, St. Louis and Milwaukee record all their deaths, but it is another thing to count the records. In a registration city, in a registration State, it makes no difference where a man lived his life; he is counted where he died his death. In a "registration" city, in a non-registration State, it sometimes matters little where a man died; he may be counted where he lived, or he may not be counted where he died, even though he died in a "registration" city. The technical point of residence appeals strongly to the city official who desires to show a low mortality. In a non-registration State no one objects if he counts off the non-residents who die in town; but in a registration State neighboring officials will see that he counts not only non-residents who die in the city, but also certain deaths which occur out of town—for instance, the deaths of paupers in the extra-urban almshouse, and of the children in the summer hospital. The eleven millions of people in these "registration cities," in non-registration States, should be thrown bodily out of the account; the thirteen millions in the "registration" States whose official records were not so complete as the enumerators' returns should also be eliminated. Otherwise the surest way to reduce the death-rate is to cease counting deaths.

This would leave us four and one-half millions of people, the nineteenth part of the country's population, to furnish us reliable returns upon which estimates might fairly be based. But these four and one-half millions all live in New England, and the experience of New Hampshire, Massachusetts, Rhode Island and Connecticut can hardly furnish an index of the results of public sanitation in the United States. Some interesting and profitable indications for the New England States might be obtained if there were any comparable statistics for the year 1890, but there are not, for in 1890 New Hampshire, Connecticut and Rhode Island were non-registration States. When but a single State, Massachusetts, could present trustworthy statistics for both the years 1890 and 1900, the Chief Statistician might have been content to say that matters have improved a lot since 1900. The decimal point probably precedes the lot. The general mortality rate fell .0 lot per thousand.

It may occur to some one who notes particularly our protest concerning the cities credited with low mortality rates that the true figures are somewhat higher than the census estimates. Error on that side is not more probable than that a man will think better with two hats on.

PRESIDENT McKINLEY'S SURGEONS.

It has very rarely happened that a person of so exalted position as the President of the United States, when seriously wounded, has received as prompt and correct surgical treatment as is commonly afforded to the man in the street.

The case of President McKinley is in this respect a noteworthy exception. The surgeons met the grave emergency without the slightest delay, and gave to their distinguished patient the very best chance for recovery which was within the gift of modern surgery. The President himself placed his case in their hands without reserve, and there was no meddlesome or timorous soul on the spot to suggest that all the world should be called in consultation. To conduct the President of the United States through the precise ritual of a modern abdominal operation is a grim task, and might tug hard at one's glottis, but it was done in this instance perfectly and without a quiver. The whole performance exemplified, on the part of all concerned, that supreme quality which Osler has extolled under the title of "Aequanimitas."

If what was so well begun could have been as well ended, nothing within the gift of a grateful nation would have fitly rewarded the surgeons for saving a life so precious, and, beside this boon, the impress of inestimable worth which a favorable result would have given to modern surgery seems but trivial. But the President had, after all, no better chance than the man in the street, and it fell out just as the cold figures showed to be highly probable. The first and greatest peril passed, and the doctors reckoned amiss with the lesser ones. Even as you and I, they made haste to meet advancing hope, and met, instead, disappointment more bitter than yours or mine. Who blames them? Who, that faces front and pursues his heart's desire, regards his heel-prints, the damned stubborn figures measuring the snail-pace of science? For a windward voyage, with precious freight, commend me to no croaking skipper.

THE ASSASSIN.

With characteristic faith in the vigor of our national life, we have long afforded asylum to a reptile brood, hatched in and hunted out of the slums of Europe. At last, to such robust hardihood, we have sacrificed a President. The sacrifice is ours because this vile infection is wholly foreign and rests upon us by our own sufferance. The catastrophe came at last, and late enough to show that in this land of a world's desire the unspeakable viper will grow fangs and strike.

Of the three blots of murder on our political history the assassination of Mr. McKinley was the maddest crime, because done by the sanest criminal. The man with the hissing name had no obsession, nor any ground of discontent. He was perfectly sound in his philosophy of hate, perfectly coherent in devilish cunning, unfaltering in demoniac courage, not flushed by his success, nor appalled by his doom. He simply wished to slay a ruler, and he wreaked his hideous will upon the most faithful servant of the most contented people under the sun.

Medical Items.

Typhoid fever is quite prevalent in several towns in Allegany county.

Dr. George L. Staley, Jr., died at his home in Baltimore on September 9, aged forty-four.

The town of Roanoke, Va., is said to have 500 confirmed cocaine *habitues*. Legislation against the sale of the drug is contemplated.

Mr. George Stewart Brown's anti-mosquito ordinance failed by one vote on its first reading in the first branch of the city council, Baltimore. Mr. Brown will not abandon the measure.

The Board of Health of New York city has passed resolutions requiring public institutions, hospitals, asylums, etc., to report cases of malaria. Notification of malaria is also requested of physicians.

The bacteriologist of the State Board of Health of New Jersey, Dr. Connolly, hopes to find a germ which will be fatal to mosquitoes, having obtained this suggestion from the destruction of locusts in Africa by means of an infection.

Dr. Edmund P. Duval died at his home in Annapolis on September 5, aged seventy-five years. Dr. Duval was a graduate of the University of Pennsylvania in 1847, practiced medicine for over thirty years, and was for twelve years State librarian.

Rev. Irving C. Tomlinson, first reader of the Christian Science Church at Concord, N. H., has been sued for damages in the amount of $6000 by Mrs. J. A. Spead, who was treated for appendicitis, and alleges that she was not treated with ordinary skill and care.

Dr. Thomas W. Simmons of Hagerstown was arrested September 18 for failure to report a case of diphtheria to the health officer of that city. Dr. Simmons waived a hearing before the magistrate. His defense, it is said, will be that the case was not one of diphtheria.

The commission on a Municipal Hospital for Infectious Diseases are considering a lot of land on the Reisterstown road as a site for the proposed group of buildings. The end of the appropriation, $25,000, is already in sight, and more funds will be asked for in the coming year.

New York State is to have an antitoxin laboratory in connection with the State Board of Health. Dr. H. D. Pease has been appointed director. Besides furnishing antitoxin, the laboratory will afford laboratory aid to physicians in the diagnosis of infectious diseases.

There seems a fair prospect of an appropriation by the city council of Baltimore for the extermination of mosquitoes. Mr. George Stewart Brown has introduced an ordinance appropriating $15,000 out of the levy of 1902 for this purpose. The ordinance has passed the first branch.

The trustees of the Fiske Fund announce the offer of a prize of $200 for the best essay on "Serum-therapy in the Light of the Most Recent Investigations." The prize is to be awarded in 1902. The secretary of the board of trustees is Dr. Halsey De Wolf, 212 Benefit street, Providence.

The American Public Health Association, at Buffalo, passed resolutions favoring the re-establishment of the army canteen. There was but one vote against the resolutions, which were offered by Dr. Munson of the United States army, and seconded by Surgeon-General Gibson of the navy.

A royal commission has been appointed by King Edward to investigate Koch's recently-announced views as to the intercommunicability of tuberculosis between man and cattle. The members of the commission are Sir Michael Foster, Dr. Sims Woodhead, Dr. Harris Cox Martin, Prof. J. McFadean, and Prof. R. W. Boyce.

Dr. Wm. McKinley, a distant relative of the late lamented President, was found dead at his home at Polk, Pa., on September 14. Dr. McKinley was forty-four years of age and a graduate of Baltimore Medical College. He was much excited by the assassination of the President, and his death was believed to have been due to apoplexy.

Dr. J. Walter Sim of Cooksville, Howard county, was indicted by the grand jury at the September term for failing to report two cases of smallpox. He pleaded guilty to the first indictment, and the second was stetted by the State. It is said that two other physicians, one in Caroline county and one in Washington county, are to be presented for the same offense.

A Buffalo physician, Dr. J. Saylin, was arrested on a charge of complicity in the anarchistic plot to assassinate President McKinley. The ground of the arrest was an alleged meeting at which Dr. Saylin was present with Emma Goldman and others to arrange the details of a murderous plot. There was no evidence against Dr. Saylin, and he was released.

A training school for nurses will be established in connection with the Second Hospital for the Insane at Sykesville, Carroll county. A two-years' course of instruction will be given by the medical staff, and a certificate will be granted to those who complete the course with credit. The school is to be established on the recommendation of the superintendent, Dr. J. Clement Clark.

Dr. John Eliot Woodbridge of Cleveland, whose peculiar views concerning the treatment of typhoid fever at one time kept his name prominent in the professional mind, died on August 31 at Bad Nauheim, Germany, from heart disease. Dr. Woodbridge was about fifty-five years old, and during the Spanish-American war was a volunteer surgeon in charge of the hospital at Fort Meyer.

During the month of September forty-five cases of smallpox were reported in Maryland, the largest number being in Howard county, Caroline, Dorchester and Washington following in the order named. A doubtful case was reported in Charles county. The disease has reappeared in the District of Columbia recently, and this, as usual, means a recrudescence of smallpox in Virginia and West Virginia.

The town of Ashland, Pa., has to defend a suit for $10,000 damages brought by Mrs. Elizabeth Burmeister, whose husband died in the pesthouse of smallpox. The ground of the suit is the township neglected its lawful duty in failing to organize a local board of health, and thereby permitted smallpox to invade the borough and spread to the plaintiff's family. Hope she will win. Some suits of that sort would be helpful in Maryland.

The "far-gone" consumptives are at last to have a chance. An unnamed philanthropist of Boston will, it is said, establish a tent camp near Boston, where only advanced cases of consumption will be received. The camp is to be called Camp Courage, and will consist of ten tents surrounding an open-air fire. The enterprise will be started as soon as ten consumptives have signified their desire to make the trial. The origin of the undertaking was in some tent experiments made in the Back Bay district.

The State Board of Health of Maryland has obtained from the attorney-general, Isidor Rayner, the opinion that county commissioners and county health officers may be prosecuted for failure to make complete returns of births and deaths from the counties. This has enabled the State Board to oblige the local boards to operate the vital-statistics law in an effective manner. The returns of deaths from nineteen of the twenty-three counties are now said to be reliable.

Major Havard, president of the commission to investigate the Caldas serum for yellow fever, has reported to Acting Governor-General Scott of Cuba that the attempt made by Dr. Caldas to immunize an individual against yellow fever has failed. The subject, after having been bitten by an infected mosquito, developed yellow fever and died. The commission comments adversely upon Dr. Caldas' claim that the pathogenic agent of yellow fever is found only in the intestinal tract, this view being definitely disproven by the studies of Reed and Carroll. The commission criticises Dr. Caldas' unprofessional course in keeping his alleged discovery a secret from his fellow scientific men. Dr. Caldas says that the only person whom he was permitted to inoculate recovered. He denies that he saw any of the three recent fatal cases of yellow fever, and denies also that their deaths were due to yellow fever, declaring that they all died of septicemia, due to the mosquito bites.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery.

Vol. XLIV—No. 11 BALTIMORE, NOVEMBER, 1901 Whole No. 1002

ADVANCES IN PREVENTIVE MEDICINE.

By A. C. Abbott, M.D.,

Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania.

AN ADDRESS DELIVERED BEFORE THE ALUMNI SOCIETY OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF MARYLAND, MAY 2, 1901.

I HAVE selected preventive medicine as the subject of my remarks not alone because of its importance, but because of the special interest that most of us feel in things that have grown up about us, developed, so to speak, under our own eyes.

While an appreciation of this subject began at a time far beyond the recollections of any of us, still its most active growth has been during a period through which all of us have lived and for the advancement of which most of us have, in one way or another, done something.

To a certain extent preventive medicine is a subject of great antiquity. That the health of peoples is dependent upon the conditions under which they live was well known to the ancients is evidenced by the Egyptian manuscripts, the Mosaic laws, and the early writings of the Greeks and Romans; and that efforts, often of great magnitude, were made to correct sanitary defects is abundantly proven by the explorations of the archeologists. Till the last quarter of the nineteenth century, however, little in the way of permanent progress was made. It is true that the importance of certain procedures to the prevention of disease, such, for instance, as diet in scurvy, fresh air and cleanliness in typhus fever, drainage of the soil in malaria and pulmonary affections, pure water in cholera and typhoid fever, and vaccination against smallpox, had been demonstrated, were continuously practiced, and were instrumental in the saving of lives and the lessening of suffering. But there was little of real knowledge on these subjects. The essential element to a complete understanding of the phenomenon of disease, namely, an acquaintance with its exciting cause, was lacking, and it was not until the advent of modern bacteriology in the latter part of the century just ended that this fundamental information was forthcoming.

Since that time the subjects have been inseparably associated. As a result of this association a chaotic mass of facts, fancies and misconceptions has been brought into an orderly whole, and such real advances as have been made have been firmly grounded in experimental proof.

The science of bacteriology, as we know it today, that has had such an important influence upon the problems of preventive medicine, pathology, clinical medicine and surgery, is scarcely twenty years old, and it has experienced its most important developments during a period in which most of us have been active.

When I pass in review the remarkable industry of workers in this field and comprehend the magnitude of their results I can scarcely realize that the primary impulse to the modern development of this science was given so short a time ago as when I was a student in this school; nor is it easy to believe that during the same time the exciting cause of tuberculosis was discovered, and that just before I became a full-fledged doctor of medicine the factor concerned in the causation of Asiatic cholera was made known, all through the classical investigations of one man, Robert Koch, whose influence upon the development of this subject can never be overestimated.

Following in rapid succession upon the epoch-making discoveries and suggestions of Koch came accounts from many other sources of similar important observations on other more or less common but etiologically obscure infections. The demonstration by such investigations that many common disease processes were dependent for their origin upon the presence of living agents that could be isolated, could be seen, handled and their manifold life processes determined under easily-adjusted artificial conditions, attracted a permanent interest such as has rarely centered about any department of medicine or its allied sciences. At once pathologists, practitioners and sanitarians sought for an opportunity to acquaint themselves with this new science, and in the more advanced institutions of learning such facilities as were needed were at once supplied. The growth of the subject was marvelous, and it is interesting to note that it has increased rather than diminished. I know of no better way of conveying to you an adequate conception of this remarkable development than to cite the annually increasing growth of the literature on medical bacteriology alone. For instance, in 1885 the first volume of Baumgarten's "Jahresbericht" appeared, an inoffensive-looking little book of 192 pages, containing nothing but the titles and brief extracts of important articles that had appeared within the year. Many who subscribed to it were doubtful as to the success of such a book on so special a subject. But wait. In two years it had grown to 517 pages; in two more years to 632 1000 pages, on not one of which is more than a title or brief summary to be found.

Perhaps the influence of this science upon the problems of preventive medicine would be best elucidated by indicating more or less directly its several applications.

When it was demonstrated that such diseases of man as tuberculosis, cholera, diphtheria, suppurative processes, typhoid fever, erysipelas, pneumonia, leprosy and bubonic plague, as well as many diseases of cattle and of fowls, were dependent upon the presence in the tissues of living organisms, it was evidently of fundamental importance for sanitary purposes to know as much as possible of these parasites.

Of primary moment was the demonstration by trustworthy methods that in the course of all infectious maladies the morbific agents are at one time or another and in one way or another liberated from the body in a living, virulent state, and that for a given disease the channel or channels of expulsion are practically constant. With this knowledge in hand the sanitarian realized the necessity of knowing everything possible about the behavior of these parasites not only within the diseased body, but outside it as well. To the demand for such information laboratory workers were not slow in responding. Investigations upon practically every phase of the subject were begun. The behavior of pathogenic bacteria in the soil, in water and in the air was taken up; their viability in certain common articles of food and drink was carefully considered; their relations to heat and cold, moisture and drying sunlight anl electricity came in for a large share of attention, and finally the true values of a host of substances that had been employed for purposes of disinfection were definitely established through trustworthy methods of experimentation.

To summarize briefly the outcome of such investigations, and indicate its practical importance to the problems of preventive medicine, it will suffice to say that the majority of pathogenic bacteria are now known to retain their vitality and virulence outside the diseased body for longer or shorter periods of time; that, therefore, infected soil, water, food and fomites generally are recognized means for the conveyance of infection, and that such an accident may always be prevented by the proper treatment of secretions, excretions and fomites immediately upon their leaving the diseased person and before they are disposed of in the customary ways.

We have also learned that the atmosphere is less often the carrier of infectious matters than was formerly believed, and that direct sunlight and prolonged drying are prejudicial to the viability of infective matters, facts which, in their relation to fresh air and sunlight as sanitary factors, need no discussion.

Through the investigations upon disinfectants and methods of disinfection, projected along lines that insured trustworthy results, some of the older practices were subjected to revision and others dropped as useless. Some of the chemical preparations to which we had formerly pinned our faith were found devoid of germicidal powers, and others, worthy of confidence, were suggested in their places.

The influence of these advances in knowledge upon the conceptions and practices of the informed sanitarian were at once made

manifest. He realized that his efforts to prevent the spread of disease were no longer matters of guesswork; he now knew when and where and how to direct his efforts to get the best returns, and he acquired a novel confidence in prophylactic measures, for he knew them to be the outcome of scientific experiment and not matters of personal fancy.

Perhaps the field of bacteriological investigation that thas been richest in results of direct importance to problems of preventive medicine is that embracing the studies upon infection and immunity, with which have been identified many of the most brilliant students of the day. Coincident with the evolution of knowledge upon these special topics, continuous light has been incidentally shed upon subjects of general medical interest, and the modern conceptions of pathological phenomena may be safely said to have originated in large part, if not wholly, in these investigations. The demonstration that all infections are at bottom but different kinds and degrees of intoxication; that their characteristic lesions result from the destructive activity upon the tissues of poisons elaborated during the growth of the invading organism; that the degree of this poison production of the living bacteria may be regulated by artificial means, and that the poisons themselves may, in many cases, be separated from the bacteria by which they were produced without alteration of their specific toxic properties, were all starting points for those epoch-making investigations that have familiarized us with the principles involved in protective vaccination and the antitoxic state.

Beginning with experiments that were often apparently of but abstract scientific interest, they have led to results whose practical importance to the human race it is difficult to estimate.

Starting with the idea that specific immunity was to be induced through the employment of attenuated living virus, based largely upon observations that had been made by Pasteur, Koch and others upon the cholera of fowls and upon anthrax, it soon became apparent that uniformly trustworhy results were to be obtained only through the employment of methods more completely under control.

A fortunate coincidence at about this time was the discovery made in America by Salmon and Smith to the effect that in the course of artificial cultivation certain pathogenic bacteria elaborated their specific toxins; that by appropriate measures these poisons could be secured free from the living organisms by which they were produced, and that by their injection into susceptible animals results could be produced that were, in their most important peculiarities, reproductions of the conditions by which that particular disease was characterized. At once this demonstration attracted attention, and in the course of the application of its principles to the study of infective processes in general it was found to be especially useful in the study of certain diseases in particular, such, for instance, as the group known as the conspicuously toxic infections, of which tetanus and diphtheria may be taken as types.

I shall not detain you with the experimental steps by which was evolved our knowledge of the antitoxic state nor the evolutionary phases through which opinions passed before culminating in that triumph of modern preventive medicine, the prevention and treatment of disease through the employment of the sera of immune animals. Were the results obtained in the treatment of diphtheria alone the only practical outcome, the enormous labor expended in evolving the method would have been vastly more than paid for. But we have more. The principles involved in the prevention and treatment of diphtheria by this method are, with appropriate modifications, apparently applicable to the treatment of other diseases as well, and though the results of efforts in other directions have not as yet been so brilliant, there are good reasons for believing that as we become more and more acquainted with the manifold modifying conditions peculiar to each specific disease, the field of usefulness for this method will be greatly extended.

Another development of recent years that bears directly upon the problems of human preventive medicine, and like the latter is due solely to advances in our knowledge of the causation of disease, is that observed in veterinary medicine. The intimacy of the relation between man and certain of the domestic animals, together with the fact that some of the important infectious diseases are common to both, has created a demand on the part of the professional sanitarian for better hygienic control of the animals on which we depend for food and with which we are, for other reasons, more or less constantly associated.

No doubt motives of economy have had something to do with it, but whether this be true or not, the fact remains that the best of our veterinary schools today are factors in public health of very much more importance than is usually supposed. The inadequate, empirical teaching of a time when the veterinarian was deservedly regarded as but a "horse doctor," deficient in education and worthy of no serious consideration, has gradually given way in our better institutions to improved courses of instruction quite comparable in their value to those offered in human medicine. Because of better facilities, the advances made in our knowledge of comparative pathology are largely referable to the work done in veterinary schools and hospitals. A realization of the interdependence between the health of domestic animals and that of man has developed a system of veterinary preventive medicine to which especial attention is given in the schools of to-day, and a demand for organized effort in the development of this work has resulted in the establishment of sanitary live-stock boards whose functions in relation to the health of animals are analogous to those of our State boards of health. For several years such a board has been in existence in Pennsylvania, and it is a pleasure to say that the importance of the work of that board, in its bearings on human preventive medicine, not only meets with the fullest appreciation on all sides, but that what has been accomplished reflects great credit upon the intelligence, integrity and progressive spirit of the men comprising it.

The recent studies upon the transmission of malaria and yellow fever, not to mention the observations upon filariasis, Texas fever and other diseases of animal parasitic origin, leave no doubt that the equipment of the student of preventive medicine in the future is to include some knowledge at least of the subject of entomology, particularly as it relates to the blood-sucking insects that prey upon man and the domestic animals. The fact that certain insects are proven to be either the definitive or intermediate hosts for the development of animal parasites sometimes seen in man, and that as mechanical carriers of infection all of them may play an important *rôle* in the dissemination of bacterial diseases also, at once demands a consideration of them.

In still another direction we note the conspicuous influence of bacteriological and general biological knowledge upon important problems of hygiene. I refer to the modern conceptions and practices of the sanitary engineer.

Long before anything was known of bacteria; long before we were familiar with the phenomena in operation in nature's great workshop, the soil, it was universally recognized that a pure water supply, together with the prompt and complete disposal of decomposable organic waste, were essential to the health of communities. With the increase of population, the growth of industries, and the corresponding demand for water and means for the disposal of waste resulting from its use, these sanitary problems assumed grave proportions for the majority of populous localities.

In the consideration of this question three facts soon become apparent: First, that, except in very rare instances, large communities are dependent for their supply of water upon sources that cannot be continuously kept free from dangerous and offensive pollution; second, that in so far as the health of the general public is concerned the question of water supply and sewage disposal are inseparably associated, and third, that of probably greater gravity than the problem of water supply is that concerned in the disposal of fluid wastes.

It was for a time the general belief that waters polluted by human refuse underwent after a time a spontaneous purification that rendered them free from danger, but the adverse reports of the Rivers' Pollution Commission in England, fully confirmed since, together with statistical evidence upon the health of many communities throughout the world using such waters for domestic purposes, have cast such doubt upon the accuracy of this opinion as to make it no longer tenable.

Since it had been shown by bacteriological study that infective processes in general were caused by living micro-organisms, and that certain diseases in particular were caused by organisms that retained their vitality in polluted water and soil, it is not surprising that the important question now before us was carefully scrutinized by bacteriological methods of analysis. Without entering into all the details, it will suffice to say that our knowledge on the subject was vastly enriched by the results of these studies.

First, of manifest agricultural as well as hygienic significance, it was found that the destruction of all dead organic matter was due to the activity of bacteria located in the upper layers of the soil, and that as a result of this destruction offensive and often dangerous substances were converted into inert harmless matters that were serviceable as food for the higher plants.

It was further found that in percolating through the soil to reappear as springs or as deep-ground waters the purification undergone by grossly polluted surface waters was referable entirely to the action of bacteria.

By the application of this knowledge to the construction of artificial devices it was found that the beneficent operations of nature could not only be easily reproduced, but from the economic and sanitary standpoints actually excelled.

Fifty years ago England tried this plan of imitating the processes of nature in purifying water, and with success, though without a knowledge of the important biological phenomena on which its success depends. Today the purification of polluted waters by the process of filtration through sand beds is regarded as the most important milestone marking the progress of modern sanitary engineering. Let me cite to you some of the effects of this method in preventing the incidence of such water-borne diseases as typhoid fever and Asiatic cholera. Within less than a year after the purification of the water supply of Lawrence, Mass., by filtration, the typhoid death rate was reduced 57 per cent. During the few months that intervened between the completion of Albany's filtration plant and the publication of the annual report of the Water Bureau there was a reduction of about 70 per cent. in the incidence of typhoid fever. The average annual typhoid death rate per 100,00 of population in Hamburg for the thirteen years before the installation of filtration was 39.7. For the first seven months following this rate fell to 18, and for six years after starting the filters the average annual typhoid death rate was only 9, as against 39.7 before.

In the year 1894 the average of the typhoid death rates in ten cities using filtered water was 8.3 per 100,000 of population, while for fifty-four cities in this country and abroad whose water supplies were derived, without treatment, from wells, springs, impounding reservoirs, lakes, upland streams and normal and polluted rivers, the typhoid death rate was 33.2 per 100,000 of population, that is to say, just four times as great as that observed in cities using water purified by this method.

While the data illustrative of the influence of a properly filtered water supply in preventing cholera is necessarily less voluminous than that in the case of typhoid fever, it is nevertheless equally as impressive. No more convincing argument for this sanitary measure could be offered than the experience of Hamburg and Altona during the cholera outbreak in the fall and winter of 1892-93. Hamburg, with a population of over 600,000, obtained its water supply direct from the river Elbe; Altona, immediately contiguous

to Hamburg, with a population of approximately 150,000, obtained its supply likewise from the Elbe, but filtered it through sand beds before distributing it throughout the city. After the epidemic of cholera it was found that there had been in Hamburg 16,957 cases, with 8606 deaths, while in Altona there had been 516 cases, with 316 deaths; in other words, in the city using the unfiltered water there had been 264.8 cases per 100,000 of population, while in the city immediately adjoining it receiving the filtered water there were but 34.6 cases to each 100,000 of population, a ratio of almost 8 to 1.

On the question of sewage disposal I shall have but little to say. After the splendid report of the commissioners deputized by the city of Baltimore to investigate this subject, it would be "carrying coals to Newcastle" to discuss the practical side of the question before this audience.

Of peculiar interest, however, to the reader of that important document is the conspicuous utilization by all the approved methods of nature's forces for the accomplishment of the desired end. In the one case—irrigation—we see that the phenomena in operation in the soil are employed; in another—the septic tank—those destructive fermentations already active in the sewage are encouraged; while in another—the discharge into large tide-water bodies—those manifold biological activities common to great bodies of water are brought under consideration; all aiming to do one thing—to convert offensive and dangerous matters into inert compounds with the greatest possible expedition, and all realizing that the microscopic plants and animals with which the bacteriologist and biologist occupy themselves are essential to this result.

It is needless for me to say that no matter what method is finally selected as best suited to the ultimate disposal of the accumulated mass of a city's fluid waste, it is incomplete and its sanitary aims will be defeated unless it provide for the prompt and complete removal of all matter commonly regarded as sewage from *every house* in the community for which it has been designed.

I learn with pleasure that after many years of cesspools and surface drainage Baltimore is about to install a sewage-disposal system sufficient for its needs and commensurate with the dignity of so progressive a population. If she could be brought to realize that her supply of water, derived in part from sources that are conspicuously open to dangerous contamination, is directly responsible for a large part of the typhoid fever in her midst, I am convinced that steps would be taken to correct this defect also. It is unnecessary for me to dwell upon the fact that a large part of the typhoid fever in many cities dependent for their water supplies upon polluted sources has been shown time and again in this country, in England and on the Continent of Europe to be in large part preventible by the appropriate treatment of polluted waters and by the adoption of adequate systems for the disposal of sewage; nor need I do more than remind you that the practical advances in sanitary engineering that have led up to this splendid result had

their starting point in the light shed through studies upon the biological side of the subject.

I have endeavored in this superficial sketch not only to indicate the influences that gave the primary impulse to modern preventive medicine and that underlie its further development, but also to bring to your attention some of their practical results.

That they have operated for good in giving to us a better understanding of the problem cannot be questioned; that they have exerted an influence upon sanitary administration is, I think, also evident; but to say that they have had their fullest influence in this latter respect would, I think, be going a little further than the facts warrant.

There are, I believe, several reasons for this. The community does not yet realize the importance of special training to the correct performance of the duties of the public health officer, and hence does not demand it. Our institutes of teaching, neither realizing the comprehensive nature of preventive medicine nor recognizing it as a department of medicine calling for special training, have not organized systematic instruction in this branch, so that comparatively few men possessed of the training necessary to the correct administration of sanitary work are available. And finally, in our general scheme of education there has been but little effort made to systematically inform the public upon the important relations between the results of scientific inquiry and the problems of every-day life.

When we look about us, however, and observe the attitude taken on the modern problems of public health by the administrative bodies in most of our large cities, we realize that the signs of the times are promising. It is too often true that men in authority having to do with public health matters are devoid of such training as would be desirable, but if we inquire more closely into the organizations of which they are often the superior officers we discover that in many cases there are affiliated with them, perhaps inconspicuously, trained men whose counsels go far to place deliberations on questions of preventive medicine upon a safe scientific foundation.

I am not at all certain that boards of health comprised entirely of highly-trained scientific men would prove a success; indeed, I am disposed to think quite the contrary. There are many questions that come before such bodies with which the scientific man, unfortunately too often devoid of worldly wisdom, would be, unaided, totally unprepared to cope. The complaint that advances in administration do not keep pace with advances in the knowledge that underlies the subject is doubtless true, and it would be surprising if it were otherwise. If called upon to outline an ideal sanitary code based entirely upon scientfically proven facts, the task would not be at all a difficult one, but I fancy if an effort were made by the administrators to put such a code into consistent operation grave obstacles would be encountered with such frequency as to

render the plan impracticable. In the practical administration of public health matters considerations continually arise of which the student only of the scientific side of the question is profoundly ignorant—questions of politics, questions of personal interest, questions of expediency, and questions on which the medical profession is not always in accord—unfortunately arise to hinder such action as might be indicated by the purely scientific consideration of the subject. But in spite of all this, the attitude taken by the authorities in most large communities during the past few years warrants the opinion that advances of very great importance have been made in methods of administration, even though it may be less evident than the development of the scientific side. You have only to examine the personnel of the Board of Health of this State, for instance, to agree with me. With Welch as its president and Fulton as executive officer, supported by others of the highest intelligence and integrity, can you believe that anything but the most disinterested scientific motives can dominate its deliberations? Consider, again, the public health administration in the State of Massachusetts and the city of Boston, in the State and city of New York, in the State of Michigan, in the city of Philadelphia, in England and its great cities, and on the Continent of Europe, and I am sure you will, by comparing the conceptions and methods of today with those of but a few years back, agree with me that all use has been made of scientific knowledge that the many-sided nature of the problem would admit. It must never be forgotten that from the scientific standpoint many things that are desirable are practically impossible for general adoption.

CHRONIC CYSTITIS DUE TO BACILLUS TYPHOSUS.—REPORT OF A CASE OF SEVEN YEARS' DURATION.

By Hugh H. Young, M. D.

ABSTRACT OF PAPER READ AT THIRTEENTH INTERNATIONAL MEDICAL CONGRESS, PARIS, 1900. REPORTED IN FULL IN VOL. VIII, JOHNS HOPKINS HOSPITAL REPORTS.

THE case here reported has been under the writer's care since March, 1898, and has been referred to previously in articles by Gwyn, and also by Richardson.

History: T. C., male, aged thirty-nine years, single.

Complaint: Bladder trouble.

Family History: Unimportant.

Past History: Indefinite history of prostatorrhea beginning fifteen years ago. No previous history of gonorrhea or bladder trouble.

Present Illness: Dates back to an attack of typhoid fever, for which he was admitted to the hospital under Dr. Osler's care on August 28, 1893. For several weeks before admission the patient had been suffering with headache, pain in the limbs and in the region of the right kidney, with fever. On admission he complained of pain in the back and pain on urination, which was much more frequent than normal. He was constipated, but complained of no abdominal pain.

Examination: The liver and spleen were both enlarged; abdomen sunken; neither kidney palpable; no rose spots found; no urethral discharge. Urine: Neutral, cloudy, albumen abundant; sediment composed of pus-cells. No diazo reaction. Blood negative. Temperature 103.8°, but after four days became normal, and remained nearly so for ten days, when the patient suffered a relapse which lasted about eleven days. Dr. Osler considered it a definite case of typhoid fever. On October 21, 1893, the patient was discharged, and soon returned to work, but still noticed pus in his urine.

In July, 1897, patient had gonorrhea, which was soon cured, but his urine remained purulent, as before.

In March, 1898, when first seen by the writer, his urine was very cloudy—of a peculiar thick gray opacity, due to pus-cells, and small thin bacilli, which decolorized by Gram. No other bacteria present.

A culture taken from the bladder with a searcher, after thorough cleansing of the urethra and penis, showed on plate cultures a pure culture of a bacillus which decolorized by Gram. Inoculation into various media resulted as follows: Glucosa agar: no gas. Bouillon: cloudy; actively motile bacilli. Milk: slightly acidified, but not coagulated. Potato: no visible growth. Gelatine: flat nailhead growth, no liquefaction. Dunham: no indol. Flagella present, shown by Loeffler's method. Cultures taken from various other colonies showed all to be of the same organism.

In order to exclude the possibility of urethral contamination a specimen of urine was obtained by suprapubic aspiration of the bladder, but cultures again showed the same organisms—identical with the bacillus typhosus.

Widal Tests: 1. Patient's blood serum with a known bacillus typhosus: reaction positive. 2. Bacillus from the bladder with the blood serum of a known typhoid-fever patient: reaction positive. 3. Patient's blood serum with bacillus from his bladder: reaction positive.

Diagnosis: Chronic cystitis, showing a pure culture of the bacillus typhosus.

The patient remained in hospital eighteen days. Urinations about normal in frequency, and a large amount of urine each time. No bladder irritation. On discharge from hospital the condition

of urine was about as bad as at entrance. He soon went to work, and suffered no great inconvenience.

In September, 1899, patient again acquired gonorrhea, and has never gotten entirely free from it.

On last admission to the hospital, January, 1900, he had a slight gleety discharge. Urine was still cloudy, but voided only every four to six hours, and without pain, in amounts varying from 400 to 600 c. c. Urine (freshly voided) shows dark-gray turbidity, with soft cheesy masses, which sink at once to the bottom; specific gravity 1.014. Reaction: slightly acid. Albumen .025 per cent. No sugar. Microscopically; pus-cells and bacilli. General health of the patient fairly good.

Cultures made on numerous occasions from urine taken from the bladder with aseptic precautions still showed the bacillus typhosus in pure culture. Widal tests again positive.

Cystoscopic Examination: Mucosa generally red in color, individual vessels not visible. Numerous small ulcers covered with fibrin present. Ureteral orifices deep red in color, and surrounded by swollen mucous membrane. Examination considerably interfered with by the impossibility of obtaining a clear fluid in the bladder (owing to the great amount of pus and fibrin present). Diagnosis: general chronic ulcerative cystitis.

Clinical Course of the Disease: General Condition: The patient constantly complained of slight malaise, chronic constipation, and pain in back, but was never acutely sick.

Pyrexia: After a slight elevation of temperature, to about 99° F.

Urinary Symptoms: Practically free from subjective symptoms. No increased frequency, no pain, stream forcible. No blood. Urine always very cloudy; reaction generally slightly acid, though sometimes neutral, or even slightly alkaline. Albumen averaging .05 per cent. Microscopically: Pus-cells, few epithelial cells, motile bacilli proved by cultures to be the bacillus typhosus present in large quantity.

Note: After cystoscopic examination an acute exacerbation of the gonorrhea occurred, followed by an invasion of the bladder with the gonococcus—at first only a few diplococci appearing in the last urine, but finally great numbers, fully as many as the bacilli, intracellular, decolorizing by Gram, growing with typical colonies on hydrocele agar, and refusing to grow on ordinary media. Cultures were obtained from the bladder by suprapubic aspiration.

It is interesting to note that this invasion of the bladder occurred and persisted despite the constant administration of urotropin and bichloride irrigations of the bladder (1 to 50,000). When last seen, four months after the infection of the bladder occurred, typhoid bacilli and gonococci were both still present in considerable

number. The urine had not changed in appearance, and was slightly acid. Cystoscopic examination still showed a chronic ulcerative cystitis.

Cases in the Literature: While reports of cases of typhoid fever accompanied by acute cystitis have of late reached a considerable number, only two cases of chronic cystitis due to the typhoid bacillus are to be found, viz., one reported by Rovsing, and one by Houston.

Rovsing's case had had typhoid fever eighteen months before, followed by very painful and frequent micturition. Vesical tenesmus became so severe that the patient begged for operation. Urine was acid, of very milky color. Culture, obtained with a sterile catheter, gave a pure growth of the bacillus typhosus. At operation (*sectio alta*) the bladder was found much contracted, the mucous membrane dark red, and with numerous ulcerations simulating tuberculosis. Both kidneys were enlarged, and at autopsy (one month later) double pyonephrosis, with a stone in the right kidney, was present.

Houston's case was a young woman of thirty-five years, who had never had typhoid fever, but who had, three years previously, nursed a child who had a diarrheal disease, possibly typhoid, and soon after began to have frequent and painful micturition. On admission she had a chronic cystitis. The urine was turbid, strongly acid, contained a small amount of albumen, epithelium, leucocytes, and bacilli, which proved to be typhoid bacilli. The blood gave the Widal test. Houston thought the bacilli had gained entry through the mamma and localized in the bladder without producing an attack of typhoid fever. In this respect his case is entirely different from the other two. Unfortunately, no cystoscopic examination was made in Houston's case, and no note made as to the size of the bladder—an important point, since Rovsing's case showed contracture of that viscus, while mine did not, though both were ulcerated. The peculiar milky appearance of the urine was present in all the cases, though the reaction was strongly acid in Houston's, while neutral in mine. The difference in the severity of symptoms in the three cases is remarkable, requiring operative interference in Rovsing's, and causing no inconvenience in mine.

The accidental contamination of the bladder in the case here reported, with the gonococcus, and its persistence after four months of treatment, add fresh interest to the case, and furnishes another case of chronic cystitis, infected with the gonococcus, to the one previously reported by the writer in Vol. IX, *Johns Hopkins Hospital Reports.*

Current Literature.

PROGRESS IN MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

THE RAPID AND EARLY DIAGNOSIS OF TYPHOID FEVER.

R. Weil (*Hygienische Rundschau,* 1901, No. 10) describes a rapid method of reaching a diagnosis of typhoid fever by the use of his special medium for differentiating typhoid from other bacteria in the stools.

The medium is prepared by adding to the filtrate from finely-cut-up and pressed potatoes weakly alkaline bouillon. To this mixture agar is added, and this medium is sterilized in the usual test tubes or other vessels at a pressure of two atmospheres, the process taking one hour. Upon this medium, after twelve hours, the typhoid colonies are silver gray, shiny and made up of fine fibers, while the colon bacillus colonies are larger, round or oval in shape, yellow-brown in color, and without any appearance of being made up of fibers.

By this means Weil has succeeded in isolating typhoid bacilli from the feces, from water and from other sources, while he regards his method as superior to that of Piorkowski in that his medium can be used in thermostats of temperature 37.5° C.

Page (*Boston Medical and Surgical Journal,* 1901, No. 19) reports his observations regarding the early diagnosis of typhoid fever by isolation of the typhoid bacillus from the stools, using Dr. Remy's asparagin-lactose-carbol gelatine. The experiments consist of thirty-one observations upon twenty-three cases of typhoid fever, all of which showed by this method the presence of typhoid bacilli in the stools. The earliest demonstration of the bacilli was on the third, the latest on the forty-fifth day; while in three cases the bacilli were demonstrated in the stools before the Widal reaction made its appearance.

Control experiments with the stools of other patients not suffering with typhoid were negative.

A certain diagnosis by this method requires at least three days, as the cultures must be proven to be typhoid bacilli by transplantation on the usual media.

THE VALUE AND LIMITATIONS OF THE WIDAL REACTION.

Fr. Tobiesen (*Zeitschr. für klin. med.,* 1901, XLIII, Part I) discusses the diagnostic value of the Widal reaction in typhoid fever. After calling attention to the fact that Widal's original idea, that positive results in dilutions of 1 to 10 meant typhoid fever, had been shown to be false, and that considerably higher dilutions were considered necessary, most insisting upon a dilution of 1 to 50, he gives his results in 350 cases of clinical typhoid fever. He used in these experiments dilutions of 1 to 10, 1 to 25, 1 to 50, 1 to 100 and 1 to 200.

In 329 cases there was at some time during the course of the disease a positive reaction in dilution of 1 to 50, while in 17, although the reaction was positive in dilution of 1 to 10 and 1 to 25, it was always negative in dilution of 1 to 50. According to Tobiesen's observations, the reaction is most likely to occur at the end of the first or the beginning of the second week.

Like Widal, Tobiesen is of the opinion that the agglutions are different from the substances furnishing immunity, because relapses (45 in his series of cases) occurred without any reference to the weak or strong agglutinating power of the blood, and also because the severity of the cases influences neither the appearance nor the strength of the reaction. According to this investigation, the agglutinating power rapidly diminishes after the termination of the disease, as shown by the fact that only one case in his series agglutinated in a dilution of 1 to 50 one year after the attack.

Withington (*Boston Medical and Surgical Journal,* 1901, No. 19) and Shattuck (*Ibid.*) report their experiences with the Widal reaction. The former in his series of 259 cases reported 6 per cent. of failures; the latter had 3 failures in 62 cases.

ENDOCARDITIS AS A COMPLICATION OF TYPHOID FEVER.

J. A. Scott (*American Medicine,* October 5, 1901) reports a case of endocarditis developed during typhoid fever. This is such a rare complication in this disease that it is well worth describing at some length. The patient had a typical mild attack of typhoid fever, with rose spots, nosebleed, enlarged spleen, slightly tympanitic abdomen, while both the Widal and the diazo reactions were distinctly present. On admission (the seventh day of his disease) the heart was absolutely normal in size, and the sounds were also normal.

On the eleventh day of the disease the patient complained of considerable dull, constant pain in the epigastric and precordial regions, and the blood-count showed 15,200 leucocytes, while an examination of the heart showed a breezy systolic murmur heard at the point of maximum impulse, transmitted beyond the nipple and in the fifth interspace, but not the angle of the scapula. Even after the temperature became normal the least exertion would markedly accelerate the heart's action, and the murmur became more marked, was transmitted to the anterior axillary line, and was associated with an accentuated pulmonic second sound, while the heart showed a distinct enlargement to the left. No other complications were to be discovered.

When seen four and one-half months after the disease the following note was made: "There is a soft blowing systolic murmur, which is increased on exercise and is transmitted to the mid-axilla, much louder in the erect posture; a distinct accentuation of the pulmonic second sound is present, and the left border of deep cardiac dullness extends just outside the mid-clavicular line."

The case, therefore, shows a man with mild enteric fever; rather decided pain about the ensiform and the pericardial regions; pal-

pitation of the heart; development of murmurs with increased size of the heart, and the presence of leucocytosis in a disease characterized by leucopenia.

The case is probably, therefore, one of endocarditis, and is of interest because of its rarity, Osler mentioning but two cases of this complication in typhoid fever, while Bartlett, Da Costa and Murchison do not mention it as a complication.

GENERAL INFECTION WITH THE TYPHOID BACILLUS.

W. Weichardt (*Zeitschr. für Hyg. und Infektions-krankheiten,* 1901, XXXVI, p. 440) reports an interesting case of general infection with the typhoid bacillus.

The patient was a boy of seventeen years of age, who as an infant had had otorrhea, and in 1899 an acute articular rheumatism with an endocarditis and a right-sided pleurisy. A year later the boy, in perfect health, was seized with severe attacks of headache, and the temperature rose to 104° F., and as the fever persisted and the features of the case resembled those of typhoid fever, it was diagnosed as such.

Four days later the patient was seized with convulsions, the fever remained high, there was constipation, and the patient exhibited contractures, so that the diagnosis was changed to that tuberculous meningitis.

With an accentuation of the cerebral or meningeal symptoms the patient died. The autopsy did not show a meningitis, but a general congestion of the brain and of the majority of the other organs. There were the typical intestinal lesions, while cultures from the spleen, liver, mesenteric glands and gall-bladder gave a pure culture of the typhoid bacillus. The brain cultures, however, were sterile.

The case is interesting in showing the wide distribution of the bacilli in this disease. It is, however, not so remarkable as the author considers it, for our views on typhoid have markedly changed, and we realize that beside the typho-toxins, the typhoid bacilli are disseminated in less or greater number by the blood current to the various organs and tissues of the body in a great many, if not in all, cases. This fact has been made use of recently by several investigators, who attempt and frequently succeed in establishing an especially early diagnosis by the making of cultures from the blood and the demonstration of the typical bacilli in the blood.

SERO-FIBRINOUS PERITONITIS AND OTHER UNCOMMON COMPLICATIONS IN TYPHOID FEVER.

Moser (*Mittheilungen a. d. grenzgebieten d. medicin u. chirurgie,* VIII, Parts I and II) reports the case of a woman who in the third week of a severe infection characterized by severe constitutional symptoms, high fever, chills and icterus, developed signs of a sero-fibrinous peritonitis, free fluid in the peritoneal cavity and much pain on pressure in the umbilical region.

There were no rose spots, the spleen was not enlarged when first seen, the temperature was 39° to 40° C. and the pulse 100 to 128; while the leucocyte count was from 8600 to 9400, the diazo reaction

was negative; the Widal reaction negative in dilution of 1 to 60, and very slow in 1 to 30 dilution; no tubercle bacilli were found in the sputum. A diagnosis was made of perforation, which had led to the formation of an abscess beneath the liver and a secondary serous peritonitis.

The operation showed a freely movable sero-hemorrhagic exudate, with deposition of fibrin over the liver, and enlarged mesenteric glands. Five days later the patient died, and the autopsy showed: No ascites; the fibrin deposits upon the surface of the liver had almost entirely disappeared, while there were numerous fibrin deposits upon the intestines and the spleen which were not noted at the time of operation. There were the typical typhoidal intestinal ulcers and a fresh endocarditis, but no perforation. *Intra vitam* a distinct friction rub was heard over the liver.

He mentions another case of typhoid in which on the fourteenth day over the whole palpable surface of the much enlarged spleen a very distinct rub could be felt and heard, which disappeared in five days.

TYPHOID BACILLI IN AN INFLAMED OVARIAN CYST.

Engelmann (*Centralblatt für Gynakologie,* 1901, No. 23) reports another case of this rare condition, but four cases having been previously reported. The case was one of a right-sided inflamed ovarian dermoid cyst, which was operated upon three months after the patient had recovered from an attack of typhoid fever. The contents— one and one-half to two liters in all—consisted of a thin, yellowish-green fluid, with the usual contents of a dermoid cyst, while bacteriologically a pure culture of a bacillus was obtained which was shown to be the typhoid bacillus by growth upon the ordinary and special media and by the agglutination reaction.

As the cyst had no adhesions to the intestines, Engelmann believed that the typhoid bacilli were introduced by means of the blood current; and since the micro-organism was present in pure culture, he regards it as another proof that under certain circumstance this bacillus is pyogenic.

ANTITYPHOID INOCULATIONS.

Wright (*Lancet,* 1901, No. 4041) gives the statistics in regard to antityphoid inoculations in the case of the Fifteenth Hussars, stationed at Murat, India.

The observations extended over the course of a year, and the results were as follows: Of the soldiers inoculated (in England) .55 per cent. contracted typhoid and .27 per cent. died, while of the non-inoculated soldiers 6.14 per cent. contracted typhoid and 3.35 per cent. died.

TYPHOID INFECTION FROM THE DEAD.

Furnrohr (*Münchener med. Wochenschrift,* 1901, No. 28) reports his own case in this connection. Three weeks after he had performed an autopsy upon a woman who had died of typhoid fever he developed a typical case of the disease, with positive Widal reaction.

Since every other source of infection could be eliminated, he was obliged to conclude that the infection must have come from the subject upon which he had made the post-mortem, and in this connection he believed that the infection arose not so much from infected material remaining on the hands as from the fine spray generated by washing the intestines with a stream of water.

TYPHOID SPONDYLITIS.

Kuhn (*Münchener med. Wochenschrift*, 1901, No. 23) reports a case of this nature developing subsequent to a very severe attack of typhoid fever. The first symptoms were pain and sensitiveness to pressure in the lumbar region, and later also in the sacral region. The diagnosis was rendered more probable by the tenderness of the spinous processes and a visible swelling over them. Later a prominence of the last lumbar vertebrae was also noted, which subsequently brought about a distinct lumbar kyphosis. Thus the condition not only caused a periostitis, but also led to distinctive changes in the body of the vertebrae which are not in this case to be referred to a latent tuberculosis of the vertebrae. The only spinal symptoms were an exaggeration of the patellar reflex and muscular weakness in the legs, the former of which persisted for a considerable time. The author concludes by insisting that more care should be paid to an examination of the vertebrae in patients convalescing from typhoid fever.

THE ANEMIA OF TYPHOID FEVER.

Houston (*British Medical Journal*, June 15, 1901) opposes the view that the marked decrease of the polymorpho-nuclear neutrophiles in typhoid fever is due to the presence of a substance or substances possessing a negative chemotactic property.

According to Houston, this disease depends in nowise upon the intensity of the infection, as he has seen moribund cases with practically no diminution in the number of this form of leucocytes or in the hemoglobin content. It is frequently observed that the diminution in neutrophiles is proportional to the thinning of the blood, while in other cases an inverse relationship seems to exist between these two factors. Also it is often noted that the lymphocytosis, seen so frequently in this disease, depends more upon the height of the temperature than upon the grade of the anemia. Also the diminution of eosinophiles seems to speak more for the view that the thinning of the blood brings about the diminution of these cells than that chemotaxis plays a part, for, as a rule, substances negatively chemotactic toward the neutrophiles are positively chemotactic towards the eosinophiles. According to Houston, the tendency toward the thinning of the blood depends upon the increased activity of the intestinal lymphatic system, while in the cases not associated with anemia this thinning is probably compensated by the concentration of the blood brought by sweating and diarrhea.

PEDIATRICS.

Under the Supervision of José L. Hirsh, M.D., Baltimore.

Two Cases of Congenital Dilatation of the Colon. Theo. Fisher. *Pediatrics,* May 15, 1901.

Fisher reports two interesting cases of congenital dilatation of the colon, both of which were admitted at Guy's Hospital on the same day, a rather remarkable circumstance considering the extreme rarity of the condition. (Hall White in Allbutt's system mentions that at Guy's Hospital no case was met with in 8000 autopsies.)

The first case was that of a child four weeks old, constipated since birth, with a much distended abdomen. Large distended coils were visible, and "huge vermicular movements" were noted on the left side of the abdomen. No obstruction was noted on examination per rectum. The feces were in small, smooth and rounded masses, which were not hard. The treatment consisted in moving the bowels frequently until the abdomen decreased in size to near the normal. There was, however, no improvement in the general condition of the child, and death occurred seventy-five days after admission to the hospital. At the necropsy the large intestine was found to be greatly distended, chiefly in the transverse colon and sigmoid flexure. There was no obstruction anywhere in the intestinal tract. There was nothing noteworthy in any other viscera.

The second case was similar to the first, except there was no distention of the abdomen. The child died seven days after admission. At the necropsy the large intestine was found to be greatly dilated, especially in the transverse and descending colon, the former when laid open measuring five inches across, and numerous small ulcers were present in the ascending colon. The lungs showed a few small patches of broncho-pneumonia. Otherwise nothing noteworthy was observed.

* * *

Eight Cases of Laparotomy for Intussusception—Six Recoveries. C. P. Clubbe. *Pediatrics,* No. VIII.

Clubbe, who has already reported nineteen cases of laparotomy for intussusception, now reports eight more cases. Of these twenty-seven children, twelve died. The author states that in every case of intussusception, whether seen early or late, a rectal injection should be made. In recent cases this procedure alone often suffices for a complete reduction, while in older cases a partial reduction will ensue, so that at operation manipulation of the intestines will be curtailed. The rectal irrigation should always be undertaken in narcosis, so that if not successful, an operation can be done at once.

Should the reduction occur from irrigation, it is essential to observe if it does not invaginate anew.

* * *

SARCOMA OF THE STOMACH IN A CHILD THREE AND ONE-HALF YEARS OLD. James Finlayson. *British Medical Jour.,* December, 1899.

The chief symptom of the child was a rapidly increasing anemia, so that the diagnosis was pernicious anemia. The red-blood corpuscles fell to 1,500,000; hemaglobin, 12 per cent. The boy remained in an apathetic condition, with no appetite, no pain, occasional vomiting, but no blood, alternating diarrhea and constipation. Autopsy showed a tumor as large as a walnut adherent to the posterior wall of the stomach. Microscopically spindle cell sarcoma.

* * *

THE TREATMENT OF TRACHOMA BY EXPRESSION, WITH ESPECIAL REFERENCE TO THE RECURRENCE OF THE DISEASE. Thos. R. Pooley. *Pediatrics,* June 1, 1901.

In the light of his recent experience the writer would summarize his conclusions as to the value of the method of treatment of trachoma by expression as follows:

1. Of all the mechanical methods that have been devised for the treatment of trachoma, it may be said that expression, in suitable cases is the most efficient remedy yet discovered, effecting in a large percentage of cases a more or less complete cure, with better preservation of the conjunctiva than any other method hitherto described.

2. It must, however, in every instance be followed up by local treatment until all tendency to relapse has disappeared.

3. The success of the method depends upon the conscientious removal, as far as possible, of all the trachamatous bodies without injury to the conjunctiva.

4. In any event, so far as the writer's experience goes, more or less frequent relapse will occur.

* * *

PATHOLOGY OF TYPHOID FEVER IN CHILDREN. Martha Wollstein. *Transactions of New York Academy of Medicine, Archives of Pediatrics,* June, 1901.

The author said that while water is the most common means of disseminating typhoid infection, milk is an excellent culture medium for the bacillus, and is a prominent factor in the transmission of the diseases in children. The disease may sometimes be conveyed by the air. Cases have been reported in which rectal infection occurred in hospitals by means of the thermometer or enema tube. It has been abundantly demonstrated that the typhoid bacillus can pass through the placenta and infect the fetus. The bacilli occur in the urine in about 25 per cent. of the cases examined, appearing in the third week, and persisting throughout convalescence. The au-

thor divided the cases of typhoid fever in children into three classes, viz.:

1. Those without characteristic intestinal lesions, comparable to the typhoid septicemia of adults.

2. Cases presenting few intestinal lesions and those of limited extent.

3. Cases which may show intestinal lesions as severe and as extensive as any occurring in adults. Hemorrhage and perforation are not unknown. The ulcers usually occur about the ileocecal valve, but may be found in any portion of the intestine, and in one case they are reported in the stomach. The number of leucocytes is subnormal throughout the course of typhoid fever, the diminution progressing with the increase in the severity and duration of the disease. Inflammatory complications are associated with a leucocytosis.

* * *

Typhoid Spondylitis. H. Quincke. *Grenzgebreten der medicin u chirurgie,* Bd. IV, s. 244.

Quincke reports two cases of disease of the vertebrae in typhoid fever. Both patients were young, the first case running a severe course, followed by a relapse; the second, mild, but long drawn out. In the former the spondylitis showed itself in the first week following the return of the temperature to normal; in the latter case ten weeks after normal temperature was reached. Both cases showed sufficient characteristics to differentiate them from other spondylitis cases. They are as follows:

1. The intensity and diffuseness of the spontaneous pains, extending over four to six vertebrae.

2. The great swelling of the soft parts.

3. The acute febrile course.

4. The rapid disappearance of the spinal symptoms.

* * *

High Temperatures in Scarlatina and Measles, as Related to Gastro-Intestinal Toxins and Fermentation. A. Devoe. *Pediatrics,* August 1, 1901.

The author points out that the high and dangerous temperatures of the exanthematous diseases are generally proportional to the severity of the external eruption. Accordingly direct treatment addressed to the skin has been much in favor. The theory that the cause of these infections is local, operating through the mouth and throat, needs modifying. He contends that the gastro-intestinal intoxication is the chief feature in maintaining the high temperatures, and offers the following observations in support:

1. Temperatures of 103-106 degrees in scarlatina and measles decline promptly by one or more degrees from an injection per rectum of a pint or more of cool water containing two to ten grains of sulpho-carbolate of soda.

2. In the same conditions, and even in the same cases, the cold bath has not acted with so much or so happy effect.

3. When the enema has been ejected without accomplishing a movement of the upper bowel, melioration of the temperature has nevertheless been noted.

4. Offensive gases and intestinal dejecta are often in evidence from these enemas, and a more notable reduction of temperature then ensues. To secure this effect repeated attempts may be required.

5. Sulpho-carbolate of soda and other suitable intestinal antiseptics may prove useful when given by the stomach also.

6. Many of the children having scarlatina and measles with high temperature are observed to have one or more curious teeth in the mouth, generating toxic influences for the lower digestive tract. It is interesting to note here that these influences prevail especially during the irritable periods of teeth formation, growth, decay and exuviation.

7. The mouth and pharynx, the proximate cavities of the digestive tract, being accessible to treatment, should be frequently cared for by brushing or wiping the teeth, and by cooling and non-irritating washes and gargles of antiseptic quality, especially during periods of high fever.

8. Post-scarlatina should always be in mind when directing treatment of this disease. Intestinal antiseptics, as it may be promoted, and asepsis, as it may be urged by cooling enemas, give aid and comfort to the kidneys, the daily excretions from which should be carefully and intelligently watched.

9. High post-eruptive temperatures are often traceable to infelicities of ingestion and digestion, and are more effectively relieved by prompt and sufficient enemas than by any other treatment.

10. These high post-eruptive temperatures repeatedly arising in the same individual have been accompanied synchronously by sensible increase of submaxillary swelling and tenderness, followed by the quick abatement of these lymphatic swellings, along with the reduction of temperature from cooling antiseptic enemas.

* * *

THE DISTINGUISHING CHARACTERISTICS BETWEEN MILD DISCRETE SMALLPOX AND CHICKEN-POX. Fred. Leavitt. *Jour. A. M. A.*, August 3, 1901.

In an article on this subject the author gives the following summary:

SMALLPOX.	CHICKEN-POX.
1. Any age.	1. Childhood.
2. Incubation, two weeks.	2. Incubation, 13-17 days.
3. Headache, backache, fever, general malaise, lasting 3-4 days.	3. No prodroma, or at most only slight indisposition.
4. Worst on the exposed parts, extremities, invariably on the palms.	4. Worst on the covered portions—thorax. Rarely or never seen on the palms or soles.

SMALLPOX.	CHICKEN-POX.
5. Progressive eruption, papules, vesicles, pustules, crusts.	5. Vesicles and crusts.
6. Lesions include the lower layers of the derma. Hard to rupture. Multilocular.	6. Lesions very superficial. Easy to rupture. Unilocular.
7. Temperature high (103°-105°) till eruption appears, then drops and does not arise again for a week.	7. Rises with the severity of the attack.
8. Eruption quite uniform in size; has a reddened area at base; frequently umbilicated.	8. Not uniform; also inflamed area about the vesicle, but less marked.
9. Painful to the touch; may itch.	9. Not painful to touch.
10. Lasts two to four weeks.	10. Lasts one week to fourteen days.
11. Vaccination protects.	11. Does not protect.
12. Pits when confluent on face; will occasionally mark in the discrete form.	12. Seldom, unless infected.
13. Generally no complications.	13. No complications.
14. High mortality in the severe confluent and hemorrhagic type.	14. Nil.
15. Resolution by crisis.	15. Resolution by lysis.

* * *

Osteomyelitis of the Inferior Maxilla and Its Relation to Dentition. Albert Delucq. Review *Arch. f. Kinderheilkunde,* Vol. 32.

In his interesting work the author comes to the following conclusions:

Osteomyelitis of the inferior maxilla is an infectious condition, which appears in this bone during development, a state in which this bone is found during the entire dentition period. This long developmental period and the direct port of entrance through teeth which have become carious explain the frequency of the infection in childhood and puberty. The bone affection following the cutting of the wisdom teeth are nothing less than osteomyelitis processes, which also occasionally appear in development of other teeth. The osteomyelitis may involve a large part of the bone, but it usually is limited to the portion under the tooth. The inflamed part often becomes necrotic, but usually the bone completely regenerates. The teeth frequently remain in the new-formed bone, but are usually functionless.

Osteomyelitis of the jaw may cause similar symptoms, as in other bones; localized hyperostosis and frequent attacks of pain.

The treatment consists in extraction of the sequestrum along with the crown of the neighboring tooth.

SURGERY.

Under the Supervision of Hugh H. Young, M.D.,
Assisted by Joseph Hume, M.D.

Indications for Operation in Gastric Ulcer. Arthur T. Cabot, M.D. *Transactions of the Massachusetts Medical Society,* June, 1901.

The latest surgical thought as regards the operative treatment of gastric ulcer is well expressed in the article in question. It has been the custom to so postpone surgical procedure on stomach ulcers that when finally the surgeon was called in the patient's condition was desperate and operation availed but little. Since, however, the inefficiency of drugs is now so evident and surgical technique so improved, the surgeon can operate on gastric ulcers, confident that, if called in time, he can alleviate if not cure the disorder.

There are several operations which are in use in different phases of this disease, viz.:

1. Gastrotomy, including the excision of ulcers.
2. Gastroplication, or turning in of the stomach wall to close an ulcer that has perforated, or to strenthen the wall at a point where perforation is threatened.
3. Pylorectomy for the removal of an ulcerating pylorus.
4. Pyloroplasty for the widening of a pylorus contracted by ulceration.
5. Gastro-enterostomy to provide a short cut into the intestine from a stomach whose motility is interefered with by ulceration.

Gastro-enterostomy is decidedly useful in relieving pyloric spasm, decreasing the production of hydrochloric acid, checking gastric hemorrhage, and promoting the healing of ulcers.

When such cases come under the surgeon's care he must know the indications for operation and the relative value of the various procedures. Immediate operation is demanded where symptoms of perforation appear. In these cases operation in the first twelve hours gives twice as many recoveries as those performed twenty-four or forty-eight hours after perforation. Hemorrhage, alarming or persistent, also demands operation. After perforation recovery without operation is impossible, while some hemorrhages will yield to medical treatment. So the surgeon must balance the probabilities of recovery in these cases. Roughly speaking, hemorrhages in gastric ulcers may be divided into two classes, viz.: those that occur in the first thirty years of life and those occurring after that time. A study of various hospital reports, notably Guy's Hospital and the Massachusetts General, shows that in the first period the hemorrhages are due to the small round ulcer, and seldom fatal. In later life hemorrhages are generally the result of chronic ulcers, which open the large vessels under the serous coat, or may even perforate adjacent organs, adhesions being present. These, there-

fore, are more dangerous, and slight recurring hemorrhages from a patient over thirty should be accounted serious, and operation should be considered. Gastro-enterostomy usually, but not always, relieves the hemorrhage, perhaps by giving rest and free drainage to the stomach. It stops the anemia consequent upon continued bleeding, and so favors the healing of the ulcer.

Surgery, apart from its application to hemorrhage and perforation (the complications of gastric ulcer), is also applicable to the treatment of the ulcer itself. It is well to compare the mortality of gastric ulcer with the mortality of the operations for its relief. As in all statistical reports, it is hard to make a fair average of the mortality rate on account of the difficulty of tracing patients to the end. However, it would seem that the average mortality for all operative interference in this disease is about 16.1 per cent., whereas the mortality of the disease itself is from 25 to 30 per cent. This is not absolutely conclusive, for recurrence may take place after the operation, though how frequently is unknown. Gastro-enterosotomy today has a mortality of 10 per cent., and Mr. Mayo Robson has practically reduced his mortality to 5 per cent. Balancing these facts, it would appear that after a chronic ulcer has long resisted medical treatment, and the patient is daily losing strength and hope, then it is proper to have recourse to surgery. To résumé, it would seem that these are the chief indications for surgical treatment in relation to gastric ulcer, viz.:

1. Acute hemorrhage should rarely be treated by operation. The results of interference have not been good, while the results of medical treatment have been satisfactory. When, however, a hemorrhage frequently repeats itself, even though not severe in amount, it will demand operative treatment as soon as its recurrent character is plain.

2. Small frequent hemorrhages, threatening anemia, give a clear indication for operation.

3. Perforation of the stomach, either acute with general peritonitis, or chronic with surrounding adhesions and perigastritis, demands instant operation.

4. When an ulcer runs a chronic course with a strong tendency to recurrence, and gradually diminishes the patient's capacity for work and the enjoyment of life, an operation is indicated, especially when the patient is so situated as to be dependent on his daily work for support, and unable to closely regulate his diet.

* * *

INTRAPERITONEAL RUPTURE OF THE BLADDER TREATED BY LAPAROTOMY AND SUTURE. REPORT OF FORTY-FIVE CASES. Samuel Alexander, M.D. *Annals of Surgery*, August, 1901.

This article contains an excellent review of the literature of this rather rare accident, and shows the influence which modern surgical thought has exercised on treatment, and the consequent lessened fatality of the accident. A good classification of the various forms of the rupture of the bladder is given, and the author shows that

though the operation was proposed as early as 1789 by Benjamin Bell, in only four cases was it attempted up to 1886, all of which ended fatally. Since then operative interference has been the rule, and of the forty-five cases of intraperitoneal rupture treated by laparotomy and suture, twenty-three died and twenty-two recovered. Probably as the result of past experience and by improvement in operative technique, a still larger reduction will be made in the death rate from this accident.

In most cases which ended fatally death was due to peritonitis, shock and hemorrhage playing rather unimportant parts. It is apparent from a study of these cases that a successful result depends mainly upon three things: First, surgical interference at the earliest possible moment after the accident; second, thorough cleansing of the peritoneal cavity, and third, the perfect closure of the bladder wound by suture.

In cases of intraperitoneal rupture of the bladder much valuable time is lost in trying to make a positive diagnosis or in trying to differentiate between an extraperitoneal and intraperitoneal rupture. Intraperitoneal rupture always occurs as the result of direct violence on the lower part of the abdomen happening when the bladder is full. With such a history and the patient suffering with intense pain in the abdomen, more or less shock, desire to urinate, and complete retention, an exploratory incision should be made. The injection test to determine rupture of the bladder is often valueless, and may be harmful to the patient. Cases have occurred in which it has failed to demonstrate a rupture which was afterwards found by laparotomy. There is also danger that it may spread infection throughout the peritoneum. The inflation test is also of uncertain value, and quite unreliable if the intestines are tympanitic. It is not really necessary to differentiate between an extraperitoneal and intraperitoneal rupture. Both accidents necessitate an immediate incision of the abdominal wall. The prevesical region can first be explored through a supra-public opening, and if found uninjured the incision can be continued upwards. After opening the abdomen it should be flushed out with the normal salt solution, which flushing should be repeated after the bladder wound is closed. For suturing the bladder wound Lembert sutures of fine silk, closely placed, should be used, reinforced, perhaps, by a crossed mattress stitch. Sutures through all the coats of the bladder, including the mucosa, invariably cause leakage and a fatal result. The question of drainage is determined by the peculiar conditions of each case.

* * *

Anesthetics in Heart Disease. John M. T. Finney, M.D. *American Journal of Medical Sciences*, August, 1901.

Finney gives not only an excellent résumé of the varied and voluminous literature on anesthetics, but embodies the practical results of a large number of cases from the Johns Hopkins Hospital and private practice. The recorded observations as to the injurious effects of anesthetics in heart lesions are incomplete, many

of the fatal cases showing no cardiac lesion post-mortem; others in which no lesions were made out before anesthesia. It cannot be too often stated that the degree of narcosis and of danger is not indicated by the amount of vapor used, but by the concentration of that vapor. The effects of ether and chloroform are practically the same up to a certain point, but the margin between the percentage of concentration of chloroform vapor necessary to produce anesthesia and one likely to produce dangerous results upon the respiratory center and heart is much smaller than in the case of ether vapor; hence ether is the safer anesthetic, especially so when the anesthetist is unskilled. Chloroform produces fatty degeneration of the heart and other organs, while ether practically causes no such effect; hence in all pathological myocardial changes in the heart chloroform is especially dangerous.

Chloroform and ether are not contraindicated in disease of the heart, but certain lesions have greater risks than others, and in all diseased conditions the anesthetic should be administered with the greatest care. The contraindications to the use of ether belong to the respiratory rather than the cardiac system. Aortic insufficiency and systolic mitral murmurs have disappeared under ether anesthesia, to reappear when the anesthetic was discontinued. Mikulicz has shown the importance of blood examination in anemic patients before operation in order to determine the percentage of hemaglobin. In patients with a hemaglobin percentage of 50 or less anesthesia produces grave results, shock and collapse being very pronounced. With the hemaglobin under 30 per cent. anesthesia is exceedingly dangerous, death often resulting from shock.

Anesthesia in heart disease, as in all others, should be preceded by removal of all foreign bodies from the patient's mouth, by fasting, by cathartics, and especially should the anesthetist reassure and win the confidence of the patient before commencing the anesthetic. Ether is contraindicated in acute lung affections and in alcoholics; chloroform in kidney diseases, heart diseases and very nervous patients. In any anesthesia the two chief dangers are concentration of vapor and impeded respiration. The skill of the anesthetist is the best safeguard to the first, while the second should be guarded against by the position of the patient, removal of the pressure from tight clothing, instruments, mucus, dropping back of the tongue, etc.

One hundred and forty-two cases were studied, in which the patients suffered from heart disease in various forms, and were operated on for various troubles, minor or grave. The conclusions drawn from these cases are that only in the myocardial affections do anesthetics exert any markedly bad effects. In valvular diseases their effect is slight, yet distinctly appreciable; in functional disturbances insignificant.

The writer emphasizes the importance of the anesthetist in every

case, often more depending on him than on the operator; suggests better instruction for the medical student in the use of these agents, and urges that each hospital be supplied with a trained and thoroughly competent corps of anesthetists.

* * *

A New Method for the Radical Cure of Hydrocele of the Tunica Vaginalis Testis. T. Hope Lewis, M.D. *Therapeutic Gazette,* August 15, 1901.

The method herein described of evacuation of the sac and subsequent inversion of it is by no means a new one. Looking over the literature of the subject we see that it was first proposed some ten years ago by Vautrin of Nancy. The French surgeons have used it largely, and in that country it is called Longuet's operation. Of late it has been introduced into Germany, where it goes by the name of Winkelman's operation. The author makes a transverse incision on the affected side, and the sac is defined and incised longitudinally. The fluid is evacuated and the cavity irrigated with sterile water or a bichloride solution. The testicle and collapsed sac are now drawn through the skin incision, the sac split from top to bottom and turned inside out, the edges being stitched in their new position by a few catgut sutures. The testicle and tunica are returned to the scrotum, so now the entire serous surface of the tunica vaginalis proper is in apposition with the loose connective tissue of the tunica vaginalis, with which it very shortly fuses. The testicle now lies between the tunica and scrotal wall. The skin wound is closed in the usual fashion. Uusually the testicle is dislocated upward as a result of the operation. The sac in its new position is unable to secrete, and speedily atrophies. The operation commends itself for its simplicity, lack of hemorrhage, freedom from complications, and attainment of a radical cure. Conclusions cannot yet be drawn as to whether it causes any changes in the testicular function.

* * *

Hematuria Following the Administration of Urotropin. W. F. Brown, M.D. *British Medical Journal,* June 15, 1901.

The use of urotropin in enteric fever has been lately urged by several authorities. Horton-Smith uses thirty grains daily for some weeks without ill effects, though urethral pain is occasionally noticed, especially if the urine becomes concentrated. Neufield has met with no untoward results. Molgi reports that the use of the drug in gonorrheal cystitis produces a burning and pricking sensation in the bladder, increased strangury and the appearance of red-blood corpuscles in the urine. The writer reports two cases of hematuria following the use of ten grains of urotropin three times a day. Both cases were suffering from enteric fever, and urotropin was given as a part of the routine treatment. In three days the pa-

tients complained of pain and difficulty in micturition, and in eight days blood appeared in the urine, actual clots also being seen. Urotropin was discontinued, and in a few days the unpleasant symptoms and blood disappeared. In these cases the bladder apparently was the source of the hemorrhage. The discomfort and pain which preceded the hematuria may be considered a danger signal and a sign to stop the urotropin.

[We are glad to see some reference to urotropin hematuria in the literature, for we have had in our practice two similar cases. Urotropin was given for bacilluria in doses of seven and one-half grains six times a day. After two or three days' use of the drug the urine became smoky, and under the microscope showed blood corpuscles in great number. In one case the hematuria persisted for more than a week after the urotropin was discontinued.]

Society Reports.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD OCTOBER 7, 1901.

THE first meeting of this society was called to order by Dr. Osler, who was unanimously elected president for the ensuing year.

Dr. Guy L. Hunner was re-elected secretary of the society, and the regular program of the evening was then taken up.

Dr. Osler presented a case of "Primary Splenomegaly, with Cirrhosis of the Liver."

We have been much interested here of late years in the subject of enlarged spleen, particularly the cases that occur apart from leukemia, chronic passive congestion, such as occurs in cirrhosis of the liver, and in heart diseases. Our cases may be divided into four groups: 1. Cases of enlarged spleen in otherwise perfectly healthy persons, who have no marked anemia, and who have suffered only from the mechanical discomfort of the greatly-enlarged organ. 2. Cases with changes in the blood not unlike those of pernicious anemia. In one instance the enlarged spleen disappeared under treatment and the woman recovered, but relapsed a year later and died. 3. A group of cases of primitive splenomegaly of long duration—eight, ten or twelve years, with a variable anemia of a chlorotic type, and with recurring hemorrhages from the stomach, and in some cases with pigmentation of the skin. 4. A group of cases with enlarged spleen, contracted cirrhotic liver, and jaundice. It was this group of cases, which was studied by Banti, and is sometimes called Banti's disease, of which the case before you is, I believe, an instance.

The patient, aged forty, came in complaining of swelling of the abdomen and legs, with pain in the back; had had the usual infantile and infectious diseases; eleven years ago had malaria for the first time, and then for four successive years had chills in the spring. The abdominal tumor has been present since the first malarial attack. It grew during four years, but had not increased in size since then. She first came in August 3, 1898, with a tumor 17 cm. from the costal margins, and presented acites and edema of the feet and legs. Blood examination at the time showed hemoglobin 47 per cent, red corpuscles 2,500,000, and leucocytes 2500. When discharged, September 30, the hemoglobin had arisen to 50 per cent., the red cells to 3,500.000, and the leucocytes were the same. There was no jaundice at that time. The patient entered the hospital again September 30, 1901, having been fairly well during the interval. Jaundice had existed for about a month, and there are some pigment spots about the eyelids. The edge of the liver could be readily felt, and was evidently cirrhotic. The enlarged spleen was 18 cm. from the left costal margin, and 15.5 cm. in width. The blood examination is interesting as contrasted to that of two years ago—viz., hemoglobin 75 per cent., red corpuscles 5,720,000, leucocytes 3470, and the coagulation time five minutes.

I think there is no question but that she has cirrhosis of the liver in addition to the chronic enlargement of the spleen, and that the case belongs to the group of primitive splenomegaly, although in her case the element of malaria has to be taken into consideration.

Dr. J. M. T. Finney: "Exhibition of Surgical Cases."

Case 1. *Removal of Foreign Body from the Esophagus.*—Dr. Finney referred to Dr. Morris Richardson's case, which was the first reported of the removal of a foreign body lodged in the lower portion of the esophagus by gastrotomy. This case was one in which a plate containing three or four teeth had been swallowed. Shortly after that Dr. Bull of New York performed a similar operation for the removal of a peach stone from the esophagus. In 1892 Dr. Finney reported, in the *Hopkins Bulletin*, a third case of peach stone removed in this way, and two years later had another case almost identical with the first.

The patient on exhibition, and upon whom he had operated ten days previously, had swallowed a plate containing one tooth, but the prongs of support were both bent in the same direction and prevented extraction of the plate from above, although it could be reached with forceps. It was forced downwards by the efforts at removal, and an esophagotomy was performed, but again efforts at removal were unsuccessful. Having forced it down, then, to the cardiac orifice of the stomach, an abdominal incision was made, the finger introduced into the stomach and the foreign body could be moved, but not extracted. A bougie was then passed through the stomach and upward so that a sponge could be attached through the mouth, and by the aid of a string drawn down upon the foreign body, which was forced through the cardiac orifice after dilation with the finger. The stomach wound was closed without drainage. The pa-

tient was fed on liquid diet for a few days, the esophageal wound allowed to heal under gauze packing, and the patient made a complete and satisfactory recovery.

Case 2. *Excision of the Gall-Bladder.*—Dr. Finney referred to the many difficulties in the way of managing gallstone cases and to the varying opinions as to the best means of treatment. He referred to the growing opinion among those most competent to speak on the subject in favor of the radical removal of the gall-bladder in most, if not all, cases, and suggested a new operation to be performed for this purpose, which, however, he stated was at present to be used only in selected cases. The object of this particular operation is to avoid the raw surfaces which have been so objectionable because of the adherence thereto of coils of intestine. He lifts a peritoneal flap by starting at the fundus, and making an incision on either side through the peritoneal and muscular coats of the gall-bladder, and after separating those from the fibrous coat for a short distance with the handle of the knife, finds it easy to dissect off the rest with the finger. After removal of the gall-bladder the incision is carried through the peritoneum so as to make a cuff, as in removal of the appendix, and then, covering the raw surfaces of the stump with this peritoneum, he draws the margins together with sutures. In his first three cases drainage was used, but in the last case the incision was closed without drainage. All the patients have done well.

Dr. Halstead, in discussing the last case, said that the report was of very great interest to him, and that he believed that Dr. Finney had made a very important contribution to the surgery of the gall-bladder.

Dr. Follis: "Exhibition of Surgical Cases."

Case 1. *Gunshot Wound of the Intestines.*—The patient was shot in the abdomen with a 22-caliber revolver two and one-half hours before admission to the hospital and just after a fairly hearty meal. The wound of entrance was to the left of the umbilicus and about the middle of the left rectus muscle. Operation was performed three hours and fifty minutes after the injury, an incision being made through the rectus muscle in the course of the bullet wound. Considerable bloody fluid was found in the peritoneal cavity, and there were three small perforations in the jejunum. These perforations were closed, the cavity wiped out clean, and search made for the point of hemorrhage, but neither that nor the bullet were found. The wound was closed with silver sutures and subcutaneous silk, and a very good recovery resulted. Dr. Follis thought that although only three perforations were found, there must, from the nature of things, have been a fourth, which took care of itself.

Case 2. *Strangulated Hernia, with Gangrene of the Bowel.*—Dr. Follis referred to the records of the institution to show that since the opening of the hospital there have been eleven cases admitted of strangulated hernia, with gangrene. Four of these were treated by immediate end-to-end suture, after excision, and of these three died. Four other cases were treated by the formation of fistula after excision, with the idea of doing a secondary suture later on. Two of these lived for the secondary

suture, and when this was done both died. There was one other case in which the strangulated loop was thought to be viable, and was returned to the peritoneal cavity, but evidently it was not, and the patient died. One case was operated upon under cocaine, the loop of bowel being brought up and sutured to the abdominal wall, and a second operation, performed fifteen hours later, to excise the discolored bowel, end-to-end anastomosis being made and the abdomen closed. Chloroform was used in the second operation, and the patient died later of broncho-pneumonia.

The patient exhibited was a man of seventy-one, admitted with a right inguinal hernia of two or three years' duration and a strangulation of twelve hours. Immediate operation was performed under cocaine, the constriction relieved, and the loop of intestine, with 7 or 8 cm. of good intestine on each end, was brought out of the abdominal cavity, but not excised. This was left to see whether it would clear up, as has happened in two cases under Dr. Mitchell's care, where the bowel was returned in twenty-four hours. This case did not clear up, however, and the patient was submitted to a secondary operation, in which the gangrenous bowel was removed and end-to-end suture made in the usual way with the Halstead bag. The operation was done entirely outside the peritoneal cavity without breaking up the 24-hour adhesions or even disturbing the gauze dressing until anastomosis had been performed, when the wound was cleansed, the intestines returned to the cavity, and within thirty-six hours the patient was drinking beer. H. O. R.

Book Reviews.

Appendicitis and Its Surgical Treatment. By Herman Mynter, M.D. Third revised edition. Pp. 231. Philadelphia: J. B. Lippincott & Co. 1900.

This little volume, now in its third edition, is presented in an attractive green cloth binding, and resembles more the modern romantic novel than a direful chronicle of one of humanity's greatest pests. The author deserves great credit for his exhaustive study of the literature of appendicitis. The references are made in copious footnotes at the bottom of the page, a custom which should be universally adopted. In a very thorough manner the author has studied the history of the disease, its anatomy, pathology, bacteriology, symptomatology, diagnosis and treatment. He has not filled his book with dogmatic personal opinions, but has presented the reader with a generous compilation of views upon all sides of the many questions at issue, but in the end has always expressed his opinion as to what is the best.

We have not space to discuss the subject-matter at any length, but will mention a few points. Simple catarrhal appendicitis is recognized as a distinct variety, but Mynter says that there are no statistics of any value

upon this point, no post-mortem examinations, and that no positive diagnosis that a given attack is of this form or will remain so can be made.

As a résumé of the different stages through which an appendicitis passes the author gives the following: 1. Catarrhal appendicitis; 2. Loss of the epithelium, with hypertrophy of the submucous layer, formation of granulative tissue and stenosis of the caliber; 3. Stricture; 4. Stagnation, dilatation, concrements, hydrops and ulceration; 5. Bacterial infection, empyema, gangrene, perforation, abscess or peritonitis. "Stricture is the cornerstone in the pathology, but strictures with dilatation, coprolites, hydrops and ulceration or the obliterating forms are not necessarily infectious. Let infection be added, and we get immediately the gangrenous, perforating and septic forms."

Under differential diagnosis the author says that typhlitis stercoralis may lead to severe forms of typhilitis and perityphlitis. He quotes Renvers, who thinks that "the majority of cases (*of supposed appendicitis*) are simply cases of typhlitis stercoralis," which lead to severe irritation in the surroundings of the cecum. The etiology is constipation, and the examination reveals, in the very beginning, a considerable doughy mass (feces) in the ileo-cecal region. The author considers appendicitis "an exclusively surgical disease." He considers "every acute case with the cardinal symptoms, severe pain, vomiting, rigidity, and rising temperature and pulse, particularly if it shows no inclination to recede in twenty-four hours, as ripe for operation." "If the pulse reaches 115 or 120 and stays there, the operation should be done at once."

The author does not take the radical view that in abscess cases the appendix should be invariably removed. On the contrary, he says, "a few surgeons with great technical skill and large experience may, perhaps, remove it safely in all cases, but I consider it much safer for the majority of surgeons to simply incise and drain." The question raised by Richardson in regard to the proper procedure in cases "too late for an early operation and too early for late operation" is accepted by the author as the one place where surgeons differ. Richardson has taken the stand that in these cases, seen first from the third to the sixth day, the risk of infecting the general peritoneal cavity is so great that it is safer to wait until the wall circumscribing the abscess is stronger. Mynter, much to our disappointment, does not express his opinion upon this important question.

A careful review of the author's personally operated cases, and an exhaustive bibliography complete this valuable treatise. Y.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Charles H. May, M.D., Instructor in Opthalmology, College of Physicians and Surgeons, Medical Department of Columbia University, New York. Second edition. Pp. 408, with 275 original illustrations, including 36 colored figures. New York: Wm. Woods & Co.

In our issue of November, 1900, reviewing the first edition of this book, we said: "It is an excellent book for students—one of the best we have ever seen. The profuse illustrating of the book is one of its most admira-

ble features, and will serve not only to make the context clear, but to impress the important points more firmly upon the student's mind." We can scarcely do better than repeat this with reference to the new edition, which is improved by a number of new and important illustrations. The publication of a second edition so soon is evidence that the Manual is receiving a deserved success. H. O. R.

MEDICAL HYPNOSIS. A Complete System of Method, Application and Use, prepared for the Self-Instruction of the Medical Profession. By L. W. De Laurence, Instructor at the School of Hypnotism and Suggestive Therapeutics, Pittsburg. Illustrated. Chicago: The Henneberry Company. 1901.

Stuff.

New Books.

ACCESSIONS TO THE FRICK COLLECTION AND GENERAL LIBRARY OF THE MEDICAL AND CHIRURGICAL FACULTY.

	DATE.
Allchin, W. H., ed., A Manual of Medicine, three volumes	1900-01
Auld, A. G., Selected Researches in Pathology	1901
Basch, S. v., Die Herzkrankheiten bei Arteriosclerose	1901
Bechterew, W. v., Les voies de conduction du cerveau, et de la moelle	1900
Berry, J., Diseases of the Thyroid Gland	1901
Besnier, E.; Brocq, L., and Jacquet, L., eds., La pratique dermatologique, two volumes	1900
Boas, I., Diseases of the Intestines	1901
Cabot, R. C., Clinical Examination of the Blood, fourth edition	1901
Carpenter, G., The Syphilis of Children	1901
Casper, L., and Richter, P. F., Functionelle Nierendiagnostik	1901
Cassirer, R., Die vasomotorisch-tropischen Neurosen	1901
Caton, R., Lectures on the Temple and Ritual of Asklepias at Epidaurus and Athens	1899
Chapman, C. W., Heart Disease in Childhood and Youth	1900
Cohen, S. S., ed., A System of Physiologic Therapeutics, two volumes	1901
Cushny, A. R., A Textbook of Pharmacology and Therapeutics	1901
Dupouy, E., Medicine in the Middle Ages	1889
Eade, Sir P., The Norfolk and Norwich Hospital, 1770-1900	1900
Elstein, W., Die Medizin im alten Testament	1901
Eichhorst, H., A Textbook of the Practice of Medicine	1901
Ewing, J., Clinical Pathology of the Blood	1901
Foster, Sir M., Lectures on the History of Physiology	1901
Fränkel, M., Die Samenblasen des Menschen	1901
Frenkel, H. S., Die Behandlung der tabischen Ataxie	1900

Friedländer, A., Ueber den Einfluss des Typhus abdominalis auf das Nervensystem 1901
Gibson, G. A., ed., Textbook of Medicine, two volumes..... 1901
Gowers, Sir W. R., Epilepsy, etc..... 1901
Haab, O., Opthalmoscopy and Opthalmoscopic Diagnosis..... 1901
Haab, O., External Diseases of the Eye..... 1899
Hare, H. H., ed., System of Practical Therapeutics, three volumes.. 1901
Harnack, A., Medicinisches aus der ältesten Kirchengeschichte..... 1892
Hoffman, A., Pathologie und Therapie der Herzneurosen, etc..... 1901
Hunter, W., Pernicious Anemia..... 1901
Kehr, H., Gallstone Disease..... 1901
Kemp, R. C., Enteroclysis, Hypodermoclysis and Infusion..... 1900
Klaussner, F., Uber Missbildungen der menschlichen Gliedmassen.. 1900
Knopf, S. A., Les senatoria..... 1900
Krogius, A., Peritonitis..... 1901
Long, E., Les voies centrales de la sensibilité générale..... 1899
Lydston, G. F., Panama and the Sierras..... 1900
Monro, T. K., Raynaud's Disease..... 1899
Mracek, F., Diseases of the Skin..... 1900
Noorden, C. v., Die Zackerkraukheit..... 1901
Oleson, C. W., comp., Secret Nostrums and Systems of Medicine.... 1901
Oppenheim, H., Diseases of the Nervous System..... 1900
Osler, W., Studies in Typhoid Fever..... 1901
Packard, F. R., comp., The History of Medicine in the U. S..... 1901
Porter, W. T., An Introduction to Physiology..... 1901
Purdy, C. W., Practical Uranalysis and Urinary Diagnosis..... 1898
Ribbert, H., Lehrbuch der allgemeinen Pathologie, etc..... 1901
Robertson, W. F., A Textbook of Pathology..... 1900
Roux, Diagnostic et traitement des maladies nerveuses..... 1901
Sacki, S., Pathologische Anatomie des Ruckenmarks..... 1901
Schäfer, E. A., Textbook of Physiology, two volumes..... 1898-1900
Schaeffer, O., Anatomical Atlas of Obstetrics..... 1901
Schaeffer, O., Atlas and Epitome of Gynecology..... 1900
Schaeffer, O., Labor and Operative Obstetrics..... 1901
Schenk, L., Lehrbuch der Geschlechtsbestimmung..... 1901
Schwartz, E., Chirurgie du foie..... 1901
Senn, N., Medico-Surgical Aspects of the Spanish-American War... 1900
Senn, N., Practical Surgery..... 1901
Steell, G., The Physical Signs of Pulmonary Disease..... 1900
Stern, R., Traumatische Entstehung innerer Krankheiten..... 1900
Thomson, A., On Neuroma and Neuro-Fibromatosis..... 1900
Villemin, P., Traumatismes, infections et diathèses..... 1901
Vorstädter, L., Tafeln zur Diagnostik der Herzklappenfehler..... 1901
Watson, C., ed., Encyclopedia Medica, four volumes..... 1899
Ziemssen H. v., and Rieder, H., ed., Die Röntgographie in der inneren Medicin..... 1901
Zuckerkandl, O., Operative Surgery..... 1899

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, NOVEMBER, 1901.

EXPERIMENTAL IMMUNIZATION AGAINST YELLOW FEVER

THE experimental production of yellow fever by means of infected mosquitoes recently resulted in death to three persons who sought immunity in this way.

Immediately after the announcement of these deaths in the daily papers followed the assurance that the "experiments" would forthwith cease, and this report is confirmed by Major Gorgas, Chief of the Sanitary Department, who, however, does not connect the end of the experimentation with the unhappy results of the three cases.

Dr. Gorgas says that the work of Surgeon-Major Reed and his colleagues "is final," that "no amount of evidence could make more positive the conclusion that yellow fever can be conveyed by the mosquito," and that "the Sanitary Department has no desire to make further experiments in this direction."

He announces, however, that the "Sanitary Department stands ready to immunize anyone who desires to undergo the treatment after the risk has been fully explained," and he fully explains the risk by saying that "the person who submits to mosquito infection stands a better chance of recovery than one who contracts the disease accidentally."

Dr. Gorgas' assurance that the experiments are at an end seems a trifle oblique, to be sure, but one's belief that the experiments will indeed cease is not weaker nor more steadfast since the appearance of his strabismic statement. The four deaths which have already followed mosquito inoculation will loom so large in the minds of those who desire to be immune to yellow fever that no one will importune the chaste disinclination of the Sanitary Department to experiment further. There is no evidence that experimental yellow fever is less dangerous than accidental yellow fever, nor can there be any evidence on that point so long as the diagnosis of yellow fever rests upon no ground of proof either intra vitam or post-mortem.

An explanation of the risk of "the treatment" must be very full, even to muddledom, before it can appear that the hazard of life in experimental yellow fever is less than the chance of escape plus the chance of recovery from a mosquito bite. With the four deaths in mind one could hardly weigh the chance of mischance through an accidental mosquito against the prospect of disaster through the bite of a Stegomya, laboratory bred,

pesthouse fed, and guaranteed virulent. These two propositions will not teeter in a balanced noddle.

The demonstration that Stegomya Fasciata is the important agent in the transmission of yellow fever was a brilliant achievement and of the highest practical value. The information came high, however. The bargain was bound and the goods were delivered when Carroll and Lazear were bitten. A full price was paid when Lazear died, and a benefited world cannot hold the gift too dear.

Proceeding upon this knowledge the Sanitary Department of Havana has given that city a mortality rate for the year 1901 lower than has been experienced in the last one hundred years. And now, after a successful campaign against mosquitoes, the same officials "stand ready" to apply infected mosquitoes to all who desire to experience an attack of yellow fever.

The bane of the city is offered as a boon to the citizen.

THE HOSPITAL COMMISSION BALKED BY THE CITY COUNCIL.

The work of the Infectious Disease Hospital Commission has been brought abruptly to a standstill by the action of the City Council, which passed an ordinance repealing the ordinance by which the Commission was created. The Commission was not legislated out of existence, for the re-enacted ordinance continued the Commission, deprived only of the means to build a hospital or to pay for the site which had been selected and contracted for.

The proposed site—the Condon property on the Reisterstown road—was suitable to the purpose in all respects, save that owners of adjoining property objected. Their protest was not in the least surprising, for there are no landholders anywhere sufficiently enlightened to regard such a hospital as a neighborhood improvement. The objections in this instance were entitled to as much consideration, and were in fact as weighty, as would have been the case if the choice of the Commission had fallen upon any other spot. Any and every citizen in such circumstances has a fair recourse through injunction proceedings, and the objectors in this instance could have gone into court under no special disadvantage except that they were all rich men. Wealth, it is true, is a sort of disability that excites sympathy, but these objectors were not so enfeebled as to require the heroic intervention of the City Council.

If the protestants had been clearly able to employ the means which the law provides for the protection of their property, the City Council would not have thought of interfering in what was none of its business. A contest was inevitable, and the Commission did not look for an easy mark. The Commission believed that these people were as fit as any other group of citizens to make a fair and legitimate fight, notwithstanding their mil-

lions and the display of gooseflesh which threw the Council into hysteria. If the Council must couch a lance in some adventure outside their lawful bounds, there is an area of pitiable opulence about to be invaded by a Zoo.

THE PASSING OF THE CLINICAL SOCIETY.

On October 18 the Clinical Society of Maryland determined to relinquish its name and autonomy, and to reorganize with the Section of Medicine and Surgery of the Medical and Chirurgical Faculty of Maryland. The proceedings published in the JOURNAL bear witness that the Clinical Society was in vigorous health and apparently able to pursue a long and honorable career. The movement has been under consideration for more than a year, and was freely discussed at three meetings, so that the final action was well deliberated. Those who opposed the movement had always the best end of the debate, and called in vain upon the majority to point out any sign of impaired vitality in the Clinical or to support the resolutions by any argument which held in single view the interest of the Clinical. The vote was 5 to 1 in favor of the resolutions, and about five-sixths of the members of the Clinical are also members of the Medical and Chirurgical Faculty. Of the votes against the resolutions, however, only one-third were cast by non-members of the Faculty, so that the requisite two-thirds majority would probably have been obtained if the vote had expressed the wishes of those only who have no professed interest in the Faculty.

The Clinical Society must have sought through this action some profit which will far outweigh the loss of its name and autonomy. Otherwise its action was a sheer sacrifice. Apparently the movement signifies an awakened spirit of progress, especially in the line of professional organization. The accessions to the membership of the Faculty will not be numerically important, but the new Section of Medicine and Surgery should be a much stronger body than the Clinical both in number and influence. The new association will be in fact what the Clinical was in name only—a State organization. Several local societies of specialists are expected to make similar alliances with the Faculty, some of them hoping, it is said, to get new life in the coalition.

A State society which, in addition to two general meetings a year, holds six or more section meetings each month, should offer stronger inducements to membership than the Faculty at present affords. Whether the Faculty can provide, out of its income from dues, facilities for professional communication as good as did the several societies, with their several revenues, is not certain, but that the members will meet the cost of the new order can hardly be doubted. The new arrangement will particularly appeal to the out-of-town member, who will be advised of the frequent meetings and can turn a profit now and then on his casual visit to town.

To the young man forming his professional affiliations the attractions of the Faculty will be vastly increased by the free use of an up-to-date library.

Medical Items.

Newark, N. J., has now daily medical inspection of schools.

Dr. Wm. Sidney Thayer has removed his office to 406 Cathedral street.

What keeps smallpox out of Baltimore? Not a case has been discovered in the city since early in July.

Dr. Edmund G. Waters, while making a professional call on October 18, fell down a stairway, bruising himself severely and breaking his left thigh.

Medical inspection of schools has been inaugurated in three of the smaller cities during the month past—Syracuse, N. Y.; Orange, N. J., and Newark, N. J.

The admissions to Harvard Medical School have fallen off about 100 as a result of the new regulation admitting only graduates of recognized colleges or scientific schools.

Dr. Wm. Osler while in Amsterdam this summer, bought a lot of valuable books which he intends to present to the Library of the Medical and Chirurgical Faculty.

"Dr." W. B. Hawkins of 419 North Paca street was arraigned before Justice Poe on October 19 on the charge of performing a criminal operation on Mrs. Carrie Mackemall.

The city Board of Health of Berlin has made chicken-pox notifiable during the prevalence of smallpox. So it seems that our German brethren have also forgotten the once familiar features of variola.

Defective insulation of an electric wire caused a fire in the Paterson (N. J.) General Hospital. Fortunately, it was extinguished before much damage was done. The ninety-five patients were safely removed.

Dr. S. A. Knopf proposes as a memorial to our late President a hospital for tuberculous children to be called "McKinley Sanatorium for the Treatment and Prevention of Tuberculous Diseases in Children."

The largest municipal hospital in Berlin has been named after Professor Virchow in honor of his eightieth birthday. In New York, on October 12, a dinner was given in honor of Professor Virchow. Dr. Osler was toastmaster.

Rev. James Bryan Purcell, rector of St. Barnabas Church, Sykesville, who died on September 24, was a physician, having graduated at the University of Maryland in 1866, and served as acting assistant surgeon in the United States army.

The appellate division of the Supreme Court of New York has decided that $15,000 is not an excessive assessment of damages upon a railroad company for causing the death of a physician, fifty years of age, who earned in his practice $175 a month.

Surgeon-General Walter A. Wyman has submitted to the Secretary of the Treasury a plan for a "Yellow Fever Institute." He gives an excellent detailed plan of organization, and it is to be hoped that the approval of the Treasury Department will be given.

Dr. Hiram Tuttle of Tacoma, Wash., died on October 9. Dr. Tuttle was the discoverer of the explosive thorite, and retired from practice in 1898 in order to perfect this discovery. Congress made an appropriation at the last session to purchase the secret of this explosive.

Two of the largest public schools in Philadelphia have been closed on account of smallpox, and the Board of Health has advised that all the public schools in the twenty-eighth ward be closed. There are more than 400 policemen employed in guarding quarantined dwellings.

Members of the late International Medical Congress who have not yet received their copies of the proceedings should at once send a request to the publishers, Masson & Co., 120 Boulevard street, Germain, Paris. No claims filed later than December 31 will be considered.

The efforts of the Philadelphia County Medical Society, the Pennsylvania Society for the Prevention of Tuberculosis, and of the health officials of Philadelphia to bring about the registration of tuberculosis have been wrecked upon a small, hard, obtuse, uncharted rock of invincible ignorance. After drifting about the vicinity of the City Hall for six months, the ordinance fouled the noddle of Mayor Ashbridge, and sank shortly after. Ashbridge was twice a Philadelphia coroner before he was mayor. His reason for vetoing the measure was "No funds." Registration would cost the city about $1000 a year.

Fewer cases of smallpox appeared in Maryland in October than in September, but as the disease has continued to increase in neighboring States the outlook is still serious. There is a considerable outbreak in Sussex county, Delaware, and at Fort Delaware in Newcastle county, Delaware, the military reservation has been quarantined on account of smallpox.

Dr. James Patterson, who had charge of a large outbreak of smallpox, numbering 1500 cases, in the west of Canada, reports that the disease was most prevalent among the unvaccinated French half-breeds; was less prevalent among the Indians, who were fairly well vaccinated, and did not appear at all among the Dhoukobor and Gallician villages, whose inhabitants had all been vaccinated in childhood, and revaccinated on board ship before entering the country.

The Chicago Hospital School for Nervous and Delicate Children will work out an idea of Dr. John M. Dodson, dean of Rush Medical College. The school will open with fifteen children, the largest number that can at present be accommodated. Only the rich can afford to send children to the school. There are to be none of the paraphernalia of schoolrooms, nor any of the characteristic features of institutions. The effects of food on the brain and body are to be studied.

Not long ago, while the United States ship of war *Chicago* was lying off Netley, near Southampton, England, a sailor died of an accident, and a funeral at Southampton Cemetery was planned with full naval honors. The registrar, however, refused to issue a permit upon the American surgeon's death certificate, on the ground that the latter, not being a registered medical practitioner, was not qualified to certify the death. Application was then made to the coroner, who could not hold an inquest unless the body was landed. The funeral on shore had to be abandoned, and the body was a few hours later committed to the sea beyond the three-mile limit.

The *Medical Record* says that the managers of both political parties in Maryland have purchased many gross of spectacles for use on election day, and have employed men to fit glasses to those who are unable to decipher the names of the candidates in the ill-lighted booths. If the oculists who are thus employed wish to render their employers thoroughly modern service, they should do more than fit proper glasses to those who mean to vote "right." They should also put wrong glasses on those who mean to vote "wrong." Of course, the party managers will employ the oculists who read the Maryland Medical Journal, and will thank us for this timely hint.

A "Free Hospital for Poor Consumptives" has been started at White Haven, Pa., with a barn, a cottage and seventeen patients. The cottage is used for dining-rooms, and the patients sleep in the barn. The barn will be lined with weather paper, and a hot-water heater will be installed, but nothing will be done "to impede the circulation of fresh air." If the cure of tuberculosis is as easy as this the tuberculous poor can all find winter quarters by pre-empting all the barns that are sufficiently decayed. Those who are fastidious about solo-sleeping can install themselves each with a hot-water bag in a hollow tree. The trees can be disinfected as often as a change of tenant occurs. If barn air cures a fair proportion of these seventeen patients, then the next step in the fresh-air cure will be to sleep on a cable, each patient being suspended by his croup and collar, with a baked potato in his shirt to modulate the temperature.

Among the recent victims of smallpox in Philadelphia was Dr. George Shively, aged seventy-one, who died on September 29. Dr. Shively was graduated from Jefferson Medical College in 1851. Physicians have had their share of the disease in the present epidemic. An unvaccinated physician in Toronto died of smallpox some months ago. A Maryland physician who had not been vaccinated since childhood had an attack of smallpox in 1900. From Parkersburg, W. Va., comes the story of a young unvaccinated physician, who, though repeatedly urged by his *confreres* to avail himself of the protection which the profession was constantly urging upon the community, neglected to do so, and as a result suffered an attack of smallpox. A physician in Sussex county, Delaware, not vaccinated since infancy, had smallpox in April, 1901. Maryland physicians will undoubtedly be much exposed this winter, and should exemplify their faith in vaccination by revaccinating themselves.

MARYLAND
MEDICAL JOURNAL
A Journal of Medicine and Surgery.
Vol. XLIV—No. 12 BALTIMORE, DECEMBER, 1901 Whole No. 1003

HYDROCYANIC-ACID GAS IN PUBLIC HEALTH WORK.

By John S. Fulton, M.D., and Wm. R. Stokes, M.D.,
Baltimore, Md.

In *American Medicine*, May 11, 1901, one of us published a preliminary note on hydrocyanic acid as a gaseous germicide. Experiments made by exposing various bacteria, in media, on glass rods, on cotton swabs, and on bits of linen in closed glass jars to the action of high percentages of the gas showed that the gas is highly destructive of non-sporulating bacteria.

Four experiments were reported in which the bactericidal power of the gas was tested in a room of 1400 cubic feet capacity, having three sides of tongued and grooved plank, one end of rough stone, one small hinged window, and a loose door. In the first of these experiments the amount of gas used was that liberated from 600 grammes of potassium cyanide, in the second experiment 1500, in the third 1200, and in the fourth 1500 grammes of cyanide were used. The period of exposure was in all instances twenty-four hours.

These experiments seemed to show that with twenty-four hours' exposure and an amount of gas equivalent to one gramme of cyanide per cubic foot of space, hydrocyanic-acid gas gave as good a surface disinfection as is in practice obtained with formaldehyde. The organisms used were B. diphtheriae, B. coli, B. typhosus, B. subtilis, staphylococcus pyogenes aureus, and staphylococcus albus. Since the cost of room disinfection with hydrocyanic is about four times that of formaldehyde disinfection, since the gas is more dangerous than formaldehyde, and since the only advantage in the use of hydrocyanic acid is lessened risk of fire, we regard these observations on the bactericidal power of hydrocyanic acid as interesting rather than valuable.

Its well-known destructiveness of animal life seemed to indicate that hydrocyanic acid might be useful in the prophylaxis of those diseases which are known to be conveyed by insects and rodents.

In the treatment of the parasitic diseases of plants and in the disinfection of nursery stock hydrocyanic acid has been successfully employed since 1897. During this time the dangerous chemicals have been freely handled by inexpert persons, and

careful observations upon various important points concerning the manufacture and use of the gas have not been made.

The chemicals employed are cyanide of potassium, concentrated sulphuric acid and water, in the relative proportions of 1, 1.5, and 2.25. The amount of gas to be used is expressed in terms of cyanide—25 grammes of cyanide per 100 cubic feet of enclosed space.

The manner of procedure in plant fumigation is, first of all, to enclose the space to be fumigated. In the orchard, trees are surrounded by a canvas tent. Nursery stock, prepared for shipment, is fumigated in a closed room.

An earthen vessel is placed within the enclosure, and then the dilute acid is prepared. The requisite quantity of water having been first put into the vessel, the acid is poured in slowly, stirring with a stick. After this the whole amount of cyanide is dropped at once into the dilute acid. The evolution of gas by this method is exceedingly rapid, and unless the capacity of the vessel is two or three times greater than the volume of the chemicals, part of the material may be thrown out by the effervescence.

This method does not seem well suited to the fumigation of ships or houses, and our experiments were conducted upon a different plan. We connected three jars, placed at suitable relative elevations, by siphon tubes. The requisite amount of cyanide was placed in the lowest and largest jar. The intermediate jar contained the water, and the upper jar the concentrated acid. The lower of the two siphons was automatic, and actuated by a definite height of liquid in the intermediate jar. It did not therefore operate until the last few ounces of acid were being delivered from the upper jar into the intermediate one. By this method the operator has time to leave and to close up behind him, and there is no danger that the destructive chemicals will escape from their containers.

It is not necessary, of course, to dilute the acid just when it is to be used, but it is usually preferable to do so, since water can be had anywhere, and it is more convenient to carry the concentrated acid.

Cyanide of potassium suitable for this purpose costs at present thirty-two cents a pound, and is 98 per cent. pure. Concentrated sulphuric acid of the proper quality costs in carboys two cents a pound. The cheaper chamber acid used in fertilizer works is unsuitable.

Before commencing to experiment upon insects and animals we had the sides and floor of our room covered with tar paper, and the door and windows weather-stripped. Two shelves were built across the window, and here the cages containing animals and insects were placed for easy observation.

The exact moment when effervescence began was noted in every experiment and accurately-timed observations were recorded.

The insects were exposed in wire traps, or in tubes and flasks

more or less protected by cotton stoppers. The amount of defensive covering was always noted.

We shall not reproduce here the experiments in detail, but shall record simply the results. The amount of gas used was equivalent to 33 grammes of cyanide to 100 cubic feet of space in all instances, except the experiments upon food materials, in which 100 grammes of cyanide were used for each 100 cubic feet of space.

House Flies (*Musca domestica*).

We made no attempt to protect house flies, but exposed them in the ordinary wire traps. They were killed in from two to four minutes after effervescence began in the cyanide jar.

Wood-Eating Termites (*Termes flavipes*).

White termites were exposed in bottles with perforated metal caps, in a test tube with loose cotton plug, and in a quantity of infested wood in a large uncovered Petri dish for a period of ten minutes to an amount of gas equivalent to 33 grammes of cyanide per 100 cubic feet of space. At the end of that time a single living termite was found among the twenty in the bottles. Those in the test tube were killed. The infested wood was broken up and carefully searched for living insects, but only dead ones were found. Two white rats, a gray rat, and two guinea-pigs, all in separate cages, exposed at the same time, were all killed.

Roaches (*Periplaneta Americana*).

The common pantry roach exposed to similar amounts of gas died in three to five minutes if free in a wire cage; in eight to ten minutes if confined in a tube with one inch of cotton plug; in nineteen minutes to one hour if protected by two to nine inches of cotton plug. When at liberty in a wire cage roaches showed excitement within ninety seconds of beginning effervescence in the cyanide jar, and if at liberty in the room would have but thirty seconds more in which to find a place of safety.

Bedbugs (*Cimex lectularius*).

Bedbugs were used in but one experiment. Under two inches of cotton the bedbugs showed signs of excitement in five and one-half minutes after the gas began to be liberated, and in fifteen minutes were apparently dead. In plugged tubes inside of a Florence flask plugged with five inches of cotton, *i. e.*, under seven inches of cotton, bedbugs became excited in fourteen minutes, and in twenty-two minutes were apparently dead. The room was closed in this experiment twenty-five minutes, when all were removed at once to open air and examined. Out of sixty or seventy insects, two very young ones were alive.

Mosquitoes (*Culex pungens*).

Only culex was used. In an aquarium jar covered with cheesecloth mosquitoes were all dead within two and one-half minutes after effervescence began. In a Florence flask with the mouth wrapped thickly with cotton, culex was killed in four minutes.

In test tubes under two-inch plug, culex was killed in five minutes, and in a similar tube within the wrapped flask, died in seven minutes.

Ox Louse (*Hematopinus eurysternus*).

A quantity of the common cattle ticks of this latitude, exposed in a Florence flask plugged with five inches of cotton, were still alive after twenty minutes, but all seemed to be dead in an hour. The room was not opened for twenty-four hours, when they were, of course, all dead.

Black Ant (*Monomorium minutum*).

Small black ants in test tubes plugged with one inch of cotton were killed in five minutes.

Rats, Mice, and Guinea-Pigs.

When the gas was made by dropping all the cyanide at once into the dilute acid, rats exposed in cages were overcome in about sixty seconds. When the gas was generated by the siphon method, rats in cages fell in convulsions in from two to three and one-half minutes from the beginning of the chemical reaction, and ceased to move in thirty to forty seconds after falling.

A number of rats were exposed in cages, placed in the doorway, when the room was opened after each experiment. Such rats were overcome in from one or two seconds to one minute, and within a minute and one-half were apparently dead. If the cages were removed to fresh air within three minutes it would often be found that the rats were still breathing, would improve more or less rapidly, and might in five minutes to an hour be quite well again. After three minutes of such exposure a rat, if still breathing when removed to fresh air, had about an even chance for his life. A large male brown rat, overcome after thirty seconds' exposure in the open doorway and removed to fresh air after ninety seconds, recovered fully in five minutes. He was then again exposed by being placed a foot or two inside the room. He showed no excitement for several minutes, but after ten minutes he was overcome. On being removed to the fresh air he became himself again within ten minutes. This animal survived four exposures to the gas, and perished in his fifth exposure, which lasted but ninety seconds.

The experiments indicate that when the gas is generated as rapidly in relation to the enclosed space as in a room of 1400 cubic feet, the acid being delivered through a siphon of one-quarter inch bore, a rat must make good his escape within three minutes or else perish. In an atmosphere containing the gas from one gramme of cyanide to three cubic feet of space a rat will surely be disabled in thirty seconds, and will die within five minutes.

Mice and guinea-pigs succumb more easily than rats. No animal under observation made an outcry. Mice and rats ran about excitedly for a few seconds, became ataxic, and then fell in general convulsions. Sometimes rats showed respiratory irritation

by pawing at their nostrils. Guinea-pigs showed no signs of excitement. Lying quietly on their abdomens, they were seized in about thirty seconds with a strong opisthotonic spasm, and fell dead without an attempt to change their posture.

CHEMICAL TESTS OF DIFFUSIBILITY.

Guaiacum paper dipped in a 2 per cent. solution of cupric sulphate gives a striking color reaction in the presence of very small amounts of hydrocyanic-acid vapor, showing an intense blue color.

Pieces of this moist test-paper placed in tubes and flasks, stopped with tight cotton plugs from two to seven inches long, were exposed during our experiments. These were enclosed in the same way as the insects. A two-inch test tube containing test paper under a one-inch plug was enclosed in a four-inch test tube with a two-inch plug, this again in an eight-inch tube with a four-inch cotton plug, making in all seven inches of cotton to be traversed by diffusion of the gas in still air. In a similar manner the test-paper was enclosed in the inmost of three glass vessels, the outermost being a Florence flask with a five-inch plug of cotton, so that nine inches of cotton plug were to be passed.

The color reaction became very distinct within two containers, under five inches of cotton, five minutes after the gas began to be liberated. The gas reached the inner tube, protected by seven inches of cotton plug, and showed strong color reaction in nine minutes. The color reaction in the inmost of three glass containers, under nine inches of cotton, appeared in twenty-nine minutes.

We tested the diffusibility of the gas by connecting the interior of the room with glass vessels outside the room by means of one-quarter-inch rubber hose, communicating through the keyhole with a glass tube and paraffin plug. In this way pieces of test paper were placed at three, six, nine, twelve and twenty-four feet of distance from the room. The color reaction became apparent at twelve feet distance from the room in fifteen minutes, but the gas was not present in sufficient amount to kill ants or roaches confined in the same vessels even at three feet from the door. In two such experiments we were unable to await results longer than half an hour, in which time neither insects nor rats were visibly affected.

When, however, a rubber bulb was applied to the outermost glass vessel, and 100 c. c. aspirated, both insects and animals were killed very speedily.

EFFECTS UPON FOODSTUFFS.

In two experiments we exposed bread, butter and milk for twenty-four hours to the action of hydrocyanic vapor in amounts three times greater than are recommended for the destruction of animals. These materials were then fed to rats, were eaten freely, and no poisonous effects were observed.

* * *

These experiments seem to show that we have in hydrocyanic-acid vapor an exceedingly rapid and powerful agent for the de-

struction of all animal and insect pests within fairly tight enclosures. Ships, houses and railway coaches admit of successful hydrocyanic-acid fumigation without special attention to openings and with no other preparation of their contents than is required to give the gas free access.

The gas is highly diffusible, having a specific gravity of .935, has no injurious effect upon metals, woodwork, textile fabrics, paint or foodstuffs, and rapidly escapes when doors and windows are opened.

Sewers can be fumigated by isolating sections of convenient size, care being taken that the gas has not access to dwelling-houses.

The gas is, of course, extremely dangerous to man, but is by no means unmanageable. After each of our experiments the room was entered instantly for the purpose of removing insects and animals. No other caution was used than to suspend respiration while in the room. A strong atmosphere of hydrocyanic acid has no disagreeable effect upon the eyes or nose.

By making a proper distribution of vessels containing the potassium cyanide, and delivering the dilute acid through rubber hose connected with a single container, it is possible to accomplish a very extensive fumigation without exposing the operator to any danger.

After hydrocyanic-acid fumigation of a ship it may perhaps be important to test the respirable quality of the air in the more remote spaces, and this can always be done by exposing a rat or mouse for fifteen minutes, when, if the animal is not overcome, the air may be considered safely respirable.

The cupric sulphate test-paper would be useful in this connection only to show the absence of the gas. The color reaction occurs in the presence of amounts of hydrocyanic acid so small as to be quite harmless. If the presence of the gas were shown by this means in the better-ventilated parts of a ship or house, it might indicate the need of caution about entering the more secluded spaces. The odor of the gas, however, is so characteristic that one could not approach a dangerous atmosphere without receiving warning through the sense of smell.

The particularly speedy effect of this gas upon mosquitoes seems to bespeak its usefulness in the prophylaxis of yellow fever, malaria, and filariasis. It is generally held that mosquitoes perish in a short time if deprived of water, and it has therefore been thought that infected mosquitoes are very unlikely to survive a voyage if confined in the hold of a ship. On the other hand, it is said that mosquitoes may derive sustenance from plant juices, and that they do by this means survive transportation in fruit steamers.

In ship disinfection against yellow fever, formaldehyde gas has had no vogue. Contrary to the laboratory teaching, which regarded only bactericidal power, sulphur dioxide has been restored to its place as the more satisfactory agent for disinfection against yellow fever. The experiments of Rosenau show that

sulphur dioxide is vastly superior to formaldehyde as an insecticide, and that it is fatal to mosquitoes in amounts much smaller than are required to kill non-sporulating bacteria. Sulphur dioxide is not, however, so speedy in its action as hydrocyanic-acid gas, and is, besides, injurious to metals and fabrics.

In the prophylaxis of plague a gaseous poison for rats and mice on shipboard is a desideratum. Up to the present time no better agent for this purpose has been suggested than sulphur dioxide. In the English experiments with sulphur dioxide it was noted that the rats collected about the ports and hawse-pipes, and most of the bodies were found in such places, showing that the animals had considerable time in which to seek escape. Our experiments show that a rat must escape, if at all, within two or three minutes of being overtaken by the gas.

In military hygiene the speedy and certain action of hydrocyanic-acid gas makes it available for the routine disinfection of hospital tents and mess tents. The Munson hospital tent, the best yet devised, has a ventilating opening in the ridge. This opening is covered with coarse netting, which does not serve, as it should, to bar the movements of insects. Camp hospitals often consist of a series of these tents. It is quite practicable, by removing the patients and closing the ventilator, to destroy all the flies and mosquitoes in such a tent without putting the tent out of service for more than an hour, and without danger to the occupants of adjoining tents.

The proper point of attack upon the typhoid-bearing flies in camps is at the latrines. This might be accomplished in some such manner as the fumigation of orchards is done. A light square box, of suitable size, made of wood and canvas, open at one end, is attached by block and fall to a light derrick mounted on a wagon. The box is simply dropped over the tree. The orchardists proceed in this manner from tree to tree, and are not in the least injured by the large amounts of gas liberated. This canvas tent is a tight enough enclosure in which to destroy scale parasites, more resistant than flies or mosquitoes. If the ground is quite rough it is necessary to throw up enough loose earth to close the openings between the tent and the soil. If each camp latrine were shaded at all times with a canvas canopy capable of being lowered to the ground, routine fumigation would require not more than twenty minutes for each latrine.

We are aware that the suggestion to employ this very deadly gas in public health work is not likely to be received with enthusiasm, for hydrocyanic acid in the popular mind far outranks all other poisons. If, however, one will look up the scanty literature of poisoning by the cyanogen compounds, and will reflect that enormous amounts of cyanide of potassium are used by workers of all grades of intelligence in numerous arts and industries, and that the odor of prussic acid is quite frequently observed in the shops and on the streets, one may be convinced that the deadly cyanide is about as amenable to human purposes as many other substances of less ill repute.

THE TREATMENT OF CONSUMPTION IN LOCAL SANATORIA.

By Henry Barton Jacobs, M.D.,
Associate in Medicine, Johns Hopkins University, Baltimore.

READ AT THE SEMI-ANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, NOVEMBER 19, 1901.

No excuse is necessary for bringing before you again the subject of treatment of consumption. It is, perhaps, the most burning question before the medical profession today, nor is this to be wondered at; scarcely a family is to be found which has not been intimately brought up against the disease and made to feel its effects. The people are now learning of the newer methods of treatment, and they are demanding of their physicians that more be done for the afflicted relative or friend. This pressure of patients and friends behind, together with the ever-present wish of the doctor to do all possible to relieve illness, has engendered a universal desire for knowledge of the treatment of consumption which is only approached by the interest in regard to the cause and cure of cancer.

The idea that consumptive patients must necessarily be sent far away from home to some special climate in order to insure a cure is fast being eradicated from the mind of the profession. There may still be some question that a larger percentage of benefit may possibly be obtained in certain mountain resorts, but it is now well established that many cases of early phthisis may get well if they but submit themselves to the proper conditions either at home or in specially-arranged hospitals near home. These latter are spoken of as local sanatoria in contradistinction to the hospitals in more remote regions, where it has been thought the climate, either from the high altitude, the dryness of the atmosphere, or the greater number of sunshiny days, was peculiarly adapted to the treatment of pulmonary tuberculosis. That these features may be of singular advantage in treatment I would not for a moment doubt, but that much may be done for the patient who, from one cause or another, finds it impossible to leave the immediate vicinity of his home, I hope to show you by reference to a few statistics, which are to be had by anyone for the asking.

A visit during the past summer to several of the sanatoria within easy reach of Boston gave me such insight into the good that these institutions are doing that I have thought that a brief description might perhaps be of value, and give you an idea of their workings and their results.

I shall attempt no comparison of statistics with the older so-called climatic resorts. It shall suffice to show that good is being done in the institutions of which I speak—good quite worthy of the time and money expended to a class of patients in no way fitted either with means or with friends for the long

journey, the prolonged separation, the often consequent privations and loneliness which attend removal to a far-distant region.

I wish to speak first of the Massachusetts State Sanatorium. This, the first governmental hospital for the treatment of consumption in the world, is situated in the town of Rutland, twelve miles from the city of Worcester and sixty miles from Boston, the journey from the latter city requiring about two hours.

Rutland is geographically the central township of the State, its surface beautifully undulating, with forest and farms interspersing the landscape. Upon a broad plateau on the southwestern slope of one of the higher hills, whose wooded summit, rising some feet above, breaks the cold of the northern winds, is situated the sanatorium, a series of one-storied pavilions, with windows on east, west, and sun parlors on the southern ends. These pavilions are connected by a long, slightly convex corridor, on the northern side of which are the kitchen, the chapel, the dining-room, and such other apartments as are not required for the immediate use of patients.

From the windows most extensive views can be had in all directions, the whole State, as it were, lying to the south and east, and on going around the hill the mountains of Vermont to the north and the Berkshire Hills to the west are plainly to be seen. In the foreground, directly in front, on the top of another hill, perhaps a mile away, lies the quaint, old-fashioned and charming village of Rutland, with its white spires and neat-looking houses. The soil is dry and gravelly, many feet in depth. The elevation above the sea is nearly 1200 feet, the foundations of the hospital being at an elevation of exactly 1160 feet.

Of the site, Olmsted Bros., the landscape architects, say: "We believe it would be very difficult to find a site anywhere else in the State so elevated above the sea and, at the same time, so well sheltered from the harsh northwesterly storms. The views are extensive and exhilarating. There is much open hilly land southeast and southwest, affording opportunities for a variety of walks, with broad views and full exposure to the sun. At the same time there are well-grown woods, picturesquely diversified by ledges and precipitous slopes, north and northwest of the building, affording shady walks and resting-places when the sun is too hot or the wind too strong in the open."

In 1895 the State of Massachusetts appropriated $150,000 for the building of this sanatorium, and entrusted its expenditure to a board of trustees of five gentlemen, non-political and non-sectarian in character. The first patient was received on October 3, 1898. Administration is entrusted to a superintendent, Dr. Walter J. Marclay, who resides at the sanatorium. The admittance and medical treatment of the patients is wholly in the hands of two physicians of Boston, Dr. Vincent Y. Bowditch and Dr. Herbert C. Clapp. They each see applicants for admission one day in the week in Boston, and one day in the week at the sana-

torium in Rutland. Each has a resident assistant physician, who is in charge during their absence. Through the kindness of Dr. Bowditch I spent a day at the sanatorium, and was shown in detail the working of the institution by Dr. Marclay. The hospital at present accommodates 175 patients, men and women. No case is admitted that has not a reasonable hope of recovery or of decided improvement, so that it is a sanatorium in the literal sense, and in no respect a hospital for chronic invalids, or a home in which to die. Every patient admitted is charged the uniform rate of $4 per week. No private patients are received, and the few small private rooms are reserved for those who, for physical reasons, are unfitted to remain in the open ward. This charge of $4 per week by no means covers the weekly expense of the patient, as the weekly cost of maintenance per capita, as noted in the last annual report, that of 1900, was $9.74½. The charge of $4 is made primarily to remove the feeling from the minds of patients that they are charity patients, and secondarily to partly assist in the maintenance of the hospital. That there is no lack of applicants can be seen in the fact that during the year 1900 there applied for entrance 1233 people, of whom but 317 could be admitted, either from lack of space, or because the disease of the applicants was too advanced to make them eligible patients. Among those admitted all the counties of the State were represented, though, of course, the more populous counties, such as Suffolk, in which is situated the city of Boston, and Worcester, in which is situated the city of Worcester, had the larger number. Men and women are alike taken, and equal space is devoted to each, married and unmarried, and widowed also.

The occupations of those admitted during the year include almost every trade. And here can be seen how admirable is the provision that patients shall in no sense be considered charitable, for it allowed clergymen, students, telephone operators, policemen, trained nurses, and jewelers to struggle for health alongside of the boxmaker, the brakeman, the engineer, the farmer, the mill operative, the machinist. Indeed, of those classed as students there were altogether twenty-one—nine men and twelve women—out of the 317 admitted, which indicates how readily earnest men and women of small means are seeking this institution.

The average daily number of patients throughout the year ending September 30, 1900, was 170. Recently the trustees have decided, through the liberality of the State, to increase the size of the hospital so that 250 patients can be admitted. The plans are now made for two additional wards, sufficient to accommodate the increased number, and the building is to be beautified and rendered more convenient for administrative purposes by the addition of a new administrative wing. Other improvements, such as the enlargement of the kitchen, and the addition

of an amusement hall, which can be used as chapel, are also contemplated.

And now what can be said of the result of the treatment of the 317 patients admitted to this sanatorium during the year 1900? I will first quote from the statistics of Dr. Bowditch. There entered into his wards during the year 159 patients. Of this number, eighteen left within one month, and these cases are not considered in the statistics, as it is not assumed that less than a month's treatment can possibly do good. Of the 141 cases treated, including those which were incipient cases, those which were somewhat advanced, and those which were very advanced, of the whole number fifty-six cases were discharged with the disease *"arrested,"* which is only stating conservatively that the disease was apparently *cured*. Fifty-six cured out of 141, or a percentage of 39.7! *Nearly* 40 *per cent. cured* of all cases admitted, and of the purely "incipient" cases 81.4 per cent.!

Besides, there were "very much improved" thirty patients more; "much improved," twenty-three; "improved," twenty-one, and "not improved," eleven.

So of the whole 141 patients, only *eleven* were not benefited by their stay in the hospital.

The average length of the stay of the patients whose disease was arrested was eight and one-half months, and the average length for the others eight months.

The average gain in weight of the arrested cases was 19.7 pounds, and the average gain in weight of the very much improved cases was 19.4 pounds.

Now, turning to the report of Dr. Clapp's service, I find that he treated in the same length of time 132 patients, of which fifty-nine were *"apparently cured or arrested,"* and forty-nine more *"improved."* Only twenty-two were not improved.

It cost the State for the maintenance of the hospital during this year $60,000, which, with the original investment of $150,000, at 4 per cent. interest, or $6000, would make a total expense to the State for the care of the 317 patients for the year $66,000. Of these 317 patients, fifty-six were cured in Dr. Bowditch's service, and fifty-nine were cured in Dr. Clapp's service—a total of 115 patients *cured*, with 112 more *much improved*. If, then, the lives of 115 men and women—young lives, too, for the average age of all patients was twenty-eight years—be computed, the cost per life to the State of Massachusetts is indicated by the number of times 115 goes into 66,000, or 574 times. Therefore, the cost of each life saved, neglecting entirely the 100 or more whose lives were practically saved for a greater or less length of time, thinking only of the cases whose disease was arrested or cured, so far as could be judged by these two expert physicians, the cost of each life to the State was but the trifling sum of $574. How small this seems in comparison to the value each one of us places upon his existence here!

This, then, is the yearly record of a local sanatorium in the

State of Massachusetts, in the heart of New England, a region from time immemorial considered most fertile in the production of consumption. It shows conclusively that pure climatic conditions are not all that are required in the treatment of the disease. More than that, the presence of such an institution in the midst of a commuity has, to quote the words of Dr. Bowditch, "an educational influence upon the community at large," and here, perhaps, is its greatest usefulness. There are too many consumptive patients in any community to be cared for in hospitals, but there are never too many to be taught the rational way of living and the rational method of cure. Dr. Bowditch says "abundant and gratifying evidences of this (its educational influence) are constantly being shown to us by the numerous letters received from former patients, telling us of their improved methods of life, and of their endeavor to teach their relatives and friends the importance of fresh air, good food and regular living as the best methods for the prevention of disease. The sanatorium at Rutland is therefore a great educational establishment, and as such should receive the hearty and generous support of everyone who is desirous of combatting the ravages of tuberculosis."

This sanatorium has been in operation too few years as yet to justify any lengthy statement as to the subsequent outcome of the patients treated and discharged from its wards, but enough has already been learned through the activity of Dr. Bowditch and his assistant, Dr. Dunham, to warrant some provisional conclusions.

Of the thirty-five cases "*arrested or cured*" during the first year of the hospital in Dr. Bowditch's service, with the exception of three, on October 1, 1900, none had relapsed. Another striking thing, more telling, perhaps, than this mere enumeration of statistics, is the fact that the people of Massachusetts are beginning to say that the consumptive may get well if he but goes early enough to Rutland, and the town itself is filling up with families having consumptive relatives; boarding-houses are being established here and there about the town for the reception of tuberculous patients; several former patients in the institution have opened private sanatoria on the nearby hills, where the *régime* and care given to those in the sanatorium are being carried out.

I have said nothing in regard to the medical treatment of patients in the sanatorium. The open-air life, abundance of nutritious food, encouragement and cleanliness, with stimulation by hydrotherapeutic measures—these are the important features. Purely medicinal treatment, while resorted to in certain indications, has been but trivial as compared to the other measures.

From the regulations, to which every patient subscribes on entry, I quote the following:

1. "Patients must spend at least *eight hours* out of doors daily, unless excused by the physician."

2. In regard to food: "* * * Food should be taken as a duty, even when there is no desire to eat."

24. "All windows are to be opened and closed by the nurse or attendant only." In other words, the windows of the wards are constantly kept open, unless, perchance, there is a driving storm. In winter they are closed in the morning when patients are getting up, and the wards are heated, so that they may be comfortable for dressing.

A feature which Dr. Marclay tells me tends to make the life of the patient contented and happy and keeps him in the open air is the formation of small clubs for the purpose of building, and spending the day in open camps on and about the wooded hill-tops. Here the men go early in the morning, read their papers, their books, play cards, and form lasting and interesting friendships, at the same time keeping outdoors.

One further word about the feeding of patients. This, together with the open air, is the prime element in treatment. There are six meals in the day—the ordinary breakfast, dinner and supper, and between them and before going to bed an additional luncheon, varying in kind and amount, and consisting of raw eggs, eggnog, beef extract, milk. Everything is methodical and exact, and all patients are required to be prompt to the minute at their meals and at the luncheons, unless excused by the physician. The hours for exercise, for rising, and for going to bed are also fixed. In these facts more than in any other, perhaps, lies the benefit of the sanatorium treatment over the home treatment. At home carelessness and neglect will creep in. In the well-ordered sanatorium nothing but exactness and discipline prevails; absolute essentials they are, too, for the cure of the larger number of patients, yet with thoughtful physicians and kindly nurses may be so mitigated and modified to the individual that no hardship nor discomfort results to any single case.

South of Boston, on the road to Providence, nearly half-way between the two cities, in the little town of Sharon, upon the hillside 200 or 300 feet above the sea-level, Dr. Bowditch has established, through the generosity of friends, a sanatorium for the treatment of early tuberculosis in women. It is a model institution, conducted on essentially the same lines as the State sanatorium just described. The difference between the two is only this, that in the Sharon Hospital there is capacity for but twenty or twenty-five patients, and each has a separate room, instead of living in open wards, as at Rutland. The difference, however, in the situation of the two hospitals is decided, the Rutland being at an elevation of nearly 1200 feet above sea-level, while that at Sharon is between 200 and 300. Moreover, Sharon is in the eastern part of the State, less than twenty miles from the ocean, and easily swept by the damp east winds which so frequently prevail in New England.

What, then, is the difference in the results of treatment in the two institutions? Practically none. The same class of cases

are admitted to Sharon that are received at Rutland; in practically the same percentage of cases the disease is arrested, despite the fact of the lower altitude and the proximity to the sea. On my visit the first remark of a friend who accompanied me was: "Why, Dr. Bowditch, where are your patients? All these young women seem to be well." A better-arranged, neater, more comfortable or more cheerful hospital for consumptives could not exist. And, best of all, it is near at home, and its inmates may recover without prolonged separation from friends and relatives. Here, too, open air and abundant good food are the features of treatment, and many lives of deserving young women are being saved in spite of the low altitude and the proximity to the sea. The tiny booklet of suggestion which is supplied to each patient contains so many valuable hints that I quote it entire:

"*Suggestions for the Use of the Patients at the Sharon Sanitarium, Sharon, Mass.*—The Sanitarium is intended to be a happy home for the inmates to regain their health in. It rests largely with the patients that it shall be so.

Adherence to certain simple rules is essential. By so doing no one need feel, because he has trouble with the lungs, that he is a source of danger to others.

Rules to be Invariably Kept.—When coughing or sneezing, always hold the hand or, better, a Japanese paper napkin before the mouth.

Abstain from coughing as much as possible, especially in the presence of others. It is very easy to acquire the habit of coughing or constantly clearing the throat, which is bad for the throat, and not pleasant to hear.

If a paroxysm of cough comes on, leave the room until it has passed, especially at the meal table.

Under no conditions whatever expectorate into anything other than the Japanese napkins or sputa cups provided for the purpose.

Never use handkerchiefs or washbowls or sinks for this purpose.

Never expectorate upon the ground.

These rules are imperative for the health of all, and must be strictly adhered to.

The chief essentials for regaining health are constant fresh air, good food, cleanliness, cheerfulness. Therefore—

Avoid sitting in the house when you can perfectly well be out on the piazzas or on the grounds. Seven hours, at least, out of doors, sitting, reclining or walking in winter, and nine hours, at least, in the summer should be the rule. If stormy, go out for a walk, even if clothes have to be changed upon returning.

Avoid congregating closely about the tables when in the parlors.

Avoid closing the windows in the parlors or in the bedrooms.

If you feel cool, put on more clothing. You defeat the object of your coming to the Sanitarium by disregarding this rule.

Avoid sitting over the radiators or registers.

Avoid leaving the meal table without eating sufficiently.

Eat even if you do not feel much appetite. As you gain in strength, your appetite and digestion will improve.

Cleanliness is essential for health.

Always wash the hands thoroughly before meals.

Bathe the whole body twice a week at least.

Sponge the chest with cold water every day, and rub briskly with a rough towel.

Brush the teeth twice a day, keeping the brush in a disinfecting solution.

Rinse the mouth and gargle with cleansing solution twice a day.

Avoid handling dogs, cats, or other pets.

Avoid kissing on the mouth.

Cheerfulness and hope are great aids in getting well. Therefore, avoid thinking of small ailments, but speak to the physician if anything special troubles you.

Avoid talking of your symptoms with others. If you feel depressed, try to do something for somebody else.

Exercise.—Follow the advice of the physician and matron on this point carefully, for much harm may come from overexercise.

In walking, always stop before you are tired. Two short walks are better than one long one, if you get easily tired. If you feel feverish, do not exercise, but rest in the open air, unless otherwise ordered.

Every day take five long, deep breaths with the mouth closed, holding each breath a few seconds; then force the air out of the chest as far as possible. Do this, when sitting or standing erect, four times a day, just before breakfast, just before dinner, just before supper, just before going to bed, and as much oftener as you can during the day, unless advised to the contrary by the physician or matron.

When you leave the Sanitarium, do not forget to practice the rules taught you, but teach them to your family and friends. By so doing you will become a missionary, and can help others to keep well."

A third institution of which I will speak briefly is the private sanatorium of Dr. Millet at East Bridgewater, Mass., southeast of Boston, about half-way between that city and Plymouth, nearer the seacoast than either of the two spoken of, at an elevation of not over 100 or 150 feet. This accommodates twenty patients. Dr. Millet, some of you may remember, spoke at our semi-annual meeting in Westminster two years ago, advocating strongly the outdoor treatment of consumption, even maintaining that sleeping in the open air at night was an additional feature toward successful results. Farther experience has con-

vinced him that his ideas are right, and here in his own sanatorium he is carrying out, perhaps, as fully as anyone else in this country the complete open-air methods. In addition to the main building, he has erected a series of small sheds, or sleeping boxes, as he calls them, completely open to the south, with slanting roof and a northern wall which may be fully opened or closed as required. In good weather this northern wall is open, also the windows upon the east and west ends, so that the patient sleeps practically in the open air, save for a slanting roof above him; but as the pitch of this roof is at such an angle that there is no pocketing of air, all currents have free sweep. In bad weather the north side may be closed for protection; the southern face, however, still remains open, unless, perchance, a driving southerly storm necessitates the rolling down of a canvas to prevent drenching the bed. These boxes are the patients' only rooms, and so, by necessity, the whole twenty-four hours are spent in open air. I have had the pleasure of visiting this theoretically ideal institution on several occasions during the summer, and I have been constantly impressed with the marked improvement which the patients show. Dr. Millet also has strong belief in the efficacy of cold water and direct sunshine as tonic agents in the treatment of consumption, and in order to carry out these measures has introduced a well-arranged hydrotherapeutic plant, where needle and shower baths and Scottish douches may be applied; also a secluded room upon the roof, open to the sky, where the patients take their turn in lying naked to the sun.

Therefore, *I may say that, in spite of low altitudes, and in a seemingly unpropitious climate, early consumption is being most successfully treated in Massachusetts.*

Now, what are we in Maryland doing for our consumptives? Undoubtedly, we as physicians are individually exerting ourselves to the utmost in more ways than one, but what is the State and the community at large doing for the 6000 to 10,000 consumptive patients who live in our midst? I must answer, comparatively nothing.

In a very small way, by individual effort and generosity, coupled with small annual donations from the city and State, there has been established in Baltimore county an institution for the care of a few of our poor phthisical patients. Situated a mile from the courthouse of Towson to the east, among some fine specimens of old oak trees, is the main building of the sanatorium, conveniently arranged for patients. To the north and east stretch away the sixty or seventy acres belonging to the hospital and purchased through the generosity of the late Mr. Newcomer. Nearby to the west has just been completed a pretty little memorial cottage, the gift of the Misses Hooper of Baltimore.

Here, in a small way, we are trying to do for a few of the unfortunate consumptives what is being done on so much larger

scale elsewhere. From November 1, 1900, to November 1, 1901, there were admitted forty-nine cases. Of this number, eleven went out improved, some so much so that they have resumed work, and two have since married. Of the rest, eight were unimproved, twelve died, five left too early to be considered, only staying a few days or a week or two. Thirteen are still under treatment, three of whom are nearly well enough for discharge.

These results cannot be compared to those of Rutland or Sharon, for at Towson all kinds of cases have been admitted, and more particularly those in an advanced state; but the fact that fourteen out of forty-nine, in whom there was little hope of improvement, have not only improved, but in several instances almost completely recovered, speaks very well for what may be done right at the borders of Baltimore in a small institution, cramped for money, and struggling to care for as many unfortunates as possible. These figures, of course, in no measure adequately represent the whole good actually accomplished. Each of the forty-nine patients admitted stands for a dangerous focus of infection removed from some struggling household; each death means that some poor sufferer, possibly without home or friends, was made comfortable in the final weeks of life, and tender hands at last closed his weary eyes.

But private institutions and individual effort and charity can never successfully cope with this great problem of tuberculosis, and they should never become the cloak to hide the public's responsibility. The community at large, the municipalities, even the State, must take hold of it. Following the example of Massachusetts, several other of our progressive wide-awake Commonwealths have wisely fallen into line. Now, what Massachusetts has done Maryland may do also. If Massachusetts, at a cost of $574 per capita, may save the lives of its citizens who are but just afflicted with this disease, why should not Maryland undertake to do likewise, even though in the beginning the scale be a smaller one? Less than sixty miles from Baltimore, on the summits of the Blue Ridge mountains, many beautiful sites can be found in all respects the equal, and in some the superior, to that at Rutland, with an altitude as great, with an horizon as broad, with mountains and forests behind to shelter from the northern storms. Here could be placed a sanatorium which in all respects might do for our community what Rutland is doing for Massachusetts, not only in saving lives, but in spreading its benign influence throughout the State by teaching others how to live and to protect themselves from the dread disease. The legislature will soon meet, and I would urge upon you all the necessity of doing what is possible to bring this subject before its members. The time is ripe, the need is great. If Maryland can but be brought to see her opportunity another star may be added to that glorious flag which, God grant, eventually will wave over a whole country, united in its struggle to overthrow consumption.

Current Literature.

MEDICINE.

Under the Supervision of Thomas R. Brown, M.D., Baltimore.

RECENT WORK IN TUBERCULOSIS.

The past year has seen such a great interest in connection with the prevention of tuberculosis, its early recognition, its treatment and prognosis, that it will be perhaps advantageous to briefly review some of the articles on this subject appearing during the past twelve months, especially those that deal with the treatment of this disease.

A most painstaking review of the therapy of pulmonary tuberculosis, especially as regards medical treatment, is to be found in the September number of this year's *Therapeutic Monthly*. The article is by T. L. Coley of Philadelphia, and is well worth reading in full by those especially interested in this branch of the subject.

After calling attention to the fact that the "aim and object of all forms of treatment is to so increase the resistance of the patient as to bring about the arrest of the tuberculous process, prevent dreaded secondary infection and induce final cure," attention is called to the necessity of recognizing the fact that the success or failure of all therapeutic measures depends upon the condition of the patient's alimentation, and the recognition of the defective assimilation and digestion of tuberculous subjects.

Bernheim believes that the whole object in the treatment of tuberculosis is the conversion of the patient's soil, characteristic of this disease, deficient in mineral constituents, phosphates, and especially deficient in acids, into a soil rich in acids and over-mineralized, *i. e.*, an arthritic soil. Bernheim believes that the system of sanatoria, overfeeding, absolute rest, and high altitude all have no other end than this transformation of the patient's soil. Bernheim recommends phosphoric acid, or phosphate of creosote, as an aid in this conversion.

Coley next discusses the urea treatment of tuberculosis, the administration of urea and food rich in urea, such as kidney, liver or brain, as recommended by Harper, who combines this with treatment in the broad sense, the use of nutritious foods, etc. The *rationale* of this treatment lies in the belief held by Harper, Buch, and others that there is a distinct antagonism between tuberculosis and gout, and the favorable results obtained by them in the use of urea in the treatment of tuberculosis.

Zomotherapy, or the treatment of the disease by rare meat or meat juices, is next taken up, Richet and Herincourt believing the good effects so produced to be due to the antitoxic agents contained therein. These observers have successfully treated experimental tuberculosis in dogs by this means. Apparently,

in the later stages of the disease, zomotherapy is very dangerous, and may bring about symptoms of poisoning. Bernheim and others believe that the value of zomotherapy lies in the fact that it aids in the conversion of a tuberculous into an arthritic soil. It is recommended by Herincourt that the feeding with muscle juice be kept up for six months at least after the subsidence of symptoms; in latent tuberculosis the juice of from 500 to 1000 grams of fresh lean steak be used, in tuberculosis of the second stage from 1000 to 2000 grams, and in tuberculosis of the third stage from 2000 to 3000 grams in the twenty-four hours.

The cacodylic-acid derivatives have been extensively employed in tuberculosis, these preparations, of course, owing their efficacy to the arsenic they contain, the use of this drug having been suggested first in 1899 by Gautier, who discovered arsenic in various of the normal body tissues. According to various observers, this form of arsenic is borne well by the stomach, markedly increases the oxygen-carrying power of the blood, and diminishes tissue-waste produced by nervous overstimulation.

The use of cinnamic acid is next discussed, Landerer of Stuttgart being its especial adherent. He believes that a marked phagocytosis is produced by the drug, inducing sclerotic changes about the diseased part, and thereby tending to circumscribe the process. Landerer, from his results in 240 tuberculous cases, believes the drug to be to a great extent specific.

According to Coley, "the toxin treatment offers some promise, for, despite the disrepute into which it fell for so many years, there is a tendency on the part of the profession to employ certain of the preparations of this class, especially tuberculin and tuberculin R. in selected cases."

Koch lays down the following rules for its use: 1. That it should be given only to patients that have no fever, and in whom the process has not advanced too far; 2. It should be given only in very small doses, and increased very slowly, so that no reaction takes place; 3. If reaction takes place, tuberculin must not be again injected until the temperature becomes normal.

Goetsch, who has used this method in a number of cases, employing no other means but the injections of tuberculin, found that by this means alone he was able to obtain quite as good results as by the introduction of a special diet, massage, cold packs, etc.

Coley then reports in brief the results obtained by the use of this method in the hands of Anderson, Murrell, Heron, Krause, Petruschky, Bonnheil, Raw and Abram, and Taylor, all showing more or less favorable results.

Mention is then made of the newer preparations of or derivatives from tuberculin. According to Trudeau and Baldwin, the antiphthisin recommended by Klebs has no demonstrable bactericidal effect upon the tubercle bacillus, and no curative effect upon the course of experimental tuberculosis in the guinea-pig. Although Trudeau and Baldwin obtained practically negative

results in their attempts to prepare an antitoxic serum for use in the treatment of tuberculous patients, and Tourkine regards the use of such means as, to say the least, premature, nevertheless Maragliano claims to have obtained success in the serum treatment of tuberculosis, although he distinctly limits the application of his method to cases of unmixed infection, with slight consolidation and little fever. Fish, Paquin, Proleau, Allen, and Fasano also claim favorable results by the use of the serum in the treatment of this disease.

Among the antiseptics to be administered either by inhalation or by inspiration in this disease, Coley first discusses formalin, which Green and others regard as of great value. According to Mathu, the administration is either by inhalation of a 6 to 10 per cent. solution, using it for from four to six hours during the day in a spray or in a nebulizer.

Ruata recommends the constant wearing of an inhaling mask into which thirty to fifty drops of some volatile antiseptic, such as creosote, are put every one or two hours, the especial claim for this method being that it stops secondary infection.

As a result of this most carefully-prepared *résumé* of the results obtained in the medical treatment of tuberculosis, Coley reaches the following conclusions:

1. That there is no specific treatment for pulmonary tuberculosis.

2. That the most satisfactory results of treatment can only be accomplished when a careful and repeated study has been made of the patient's powers of digestion and assimilation, and when these are kept at the highest point of efficiency.

3. That the action of tuberculin is unquestionably beneficial in a certain percentage of incipient cases.

4. That of the so-called antitoxins, some may possess some antitoxic power, but they are scarcely sufficient for curative purposes in the vast majority even of incipient cases of tuberculosis either in man or in animals.

5. That the treatment of tuberculosis with antiseptics has not yielded especially favorable results. Antiseptics administered internally are of value largely on account of their action on the gastro-intestinal tract. Intratracheally or intravenously or by atomization, they are of no appreciable value. When given by inhalation they are of more value, but only on account of the possible deterrent effect on secondary infection. To secure the best results, Ruata's method, while heroic, seems most logical, but difficult of attainment in the majority of cases.

The climatic treatment of tubercular consumption is discussed in the same number of the *Therapeutic Monthly* by T. Mellor Tyson. After calling attention to the fact that, as a rule, tuberculous patients improve in a dry locality, with abundant sunshine and plenty of outdoor life, Tyson mentions as the climates wherein consumption is most prevalent: (1) Damp, cold climate; (2) Damp, hot climate; (3) Dry, hot climate. "Hirsch

has shown that damp heat has not a positive influence on the production of consumption, but has a decidedly unfavorable one upon its progress when once established, while a damp, cold climate is not only a positive factor in the production of consumption, but is highly injurious to those affected with the disease."

Solly especially recommends the following regions in the order named as favorable in the treatment of tuberculosis of the lungs: (1) Elevated regions, (2) deserts, (3) the sea.

In the United States a moderately cool and decidedly dry climate exists at an elevation of 4000 feet and above latitude 35 degrees north, as Colorado. From Solly's charts and tables it is seen that "a high percentage of cases improves in a high altitude, next in lowland, and then in sea regions."

As regards climate, therefore, Tyson, from a consideration of the figures of Solly and others, concludes that (1) the stage of infiltration, with more or less consolidation of the lung tissues, but not softening, do better in cold dry and warm dry climates; (2) Where softening has commenced, but no cavity has been detected, warm moist and warm dry climates are most suitable; (3 For the stage in which cavities are present, warm dry and warm moist climates are best.

We append the following facts (by G. A. Evans) in regard to the climate in various parts of the United States:

1. Climate cold and moderately moist, general elevation 2000 feet—Western slope of Appalachian chain, Adirondacks, Catskill, Alleghany and Cumberland mountains.

2. Climate moderately warm and moderately moist—Western North Carolina, Asheville, elevation 2500 feet; Western South Carolina, Aiken; Georgia, Marietta and Thomasville.

3. Climate warm and moist—Florida (equable), Southern California, coast region, equable.

4. Climate warm and moderately dry, elevation about 2000 feet—Southwestern Texas, Southern California, inland.

5. Climate cool and moderately dry, elevation about 1000 feet—Minnesota, Nebraska, Dakota.

6. Climate cool and dry, elevation from 4000 to 7000 feet—Montana, Wyoming, Colorado, Northern New Mexico and Western Kansas. In this group are to be placed Davos and San Moritz in Europe.

7. Climate warm and dry, elevation 3000 to 5000 feet—Southern New Mexico and Southern Arizona.

Two most valuable papers are those of Dr. Knopf—one on "The Prevention of Tuberculous Disease in Infancy and Childhood," in Maryland Medical Journal for August; the other on "Respiratory Exercises in the Prevention and Treatment of Pulmonary Diseases," in *Johns Hopkins Bulletin* for September.

Knopf, in the second of these articles, after defining natural breathing, and discussing the value of right physiological breathing in the prevention of disease, and the necessity of proper

clothing so worn as not to impede proper breathing, and of pure air, describes various exercises of especial use to those suffering with pulmonary tuberculosis as well as those who are exposed to the infection of the disease. He concludes as follows: "The value of respiratory exercises is now conceded by all phthisiotherapeutists to assure a good, complete hematosis, that is to say, as nearly as possible a perfect oxygenation of the blood, to relieve the congested lungs of mucus and facilitate expectoration, to diminish inflammatory exudates. In short, to improve the respiratory and circulatory processes in the tuberculous patients, or those suffering with similar diseases, I know of no better means than judicious and regular breathing exercises under the supervision of a well-trained physician."

Of especial interest to Baltimoreans is Buckler's paper on "Pulmonary Tuberculosis in Baltimore," appearing in the September number of the *Bulletin of the Johns Hopkins Hospital.* The article has been prepared from the map made by Dr. Jones, the Assistant Health Commissioner, and shows how the great majority of tuberculous patients is segregated in certain portions of the city, while, in consideration of the hygienic conditions in these especially infected areas, Dr. Buckler is led to ask whether "it does not seem probable that overcrowding, poor ventilation, and lack of fresh air and sunshine are not the sole causative factors in the spread of the disease, but that certain districts seem to be more especially tainted with tuberculous infection than others, and that, to a certain extent, where one lives seems to be as important as how one lives."

THE FREQUENCY OF TUBERCULOSIS.

O. Nägeli (*Virchow's Archiv*, Vol. CLX, Part 2) furnishes a most valuable article on the frequency, localization, and healing of tuberculosis from the macroscopic and microscopic results of 500 autopsies at the Bacteriological Institute at Zurich. From the results of his observations it seems as if one could truly say that every adult is tuberculous, as 97 per cent. of the cases, in which especial care was exhibited in making the autopsy, showed some form of tuberculosis.

In childhood tuberculosis is less common, but generally fatal; in middle and later life it is almost universal, but not fatal in a large percentage of the cases, while in the decades from ten to thirty years of age a condition standing between these two exists.

Before the first year tuberculosis is extremely rare; from the first to the fifth year, rare, but fatal; from the fifth to the fourteenth year, one-third of the cases showed tuberculosis, three-fourths of which had ended fatally, while in the other fourth latent but still active tuberculosis was present; between the fourteenth and eighteenth year one-half of the autopsies showed tuberculosis of the active progressive type, while one-third of all the deaths at this age were due to tuberculosis; between the eighteenth and thirtieth year almost every section showed tuber-

culosis, three-fourths being active processes, one-fourth already healed, while two-fifths of all the deaths at this age are to be ascribed to tuberculosis; from the thirtieth year practically every section showed some form of tuberculosis, while the probability of finding active fatal cases of tuberculosis becomes progressively less, and the number of healed cases progressively greater.

Nägeli reaches these conclusions from a careful consideration of his series. The frequency of tuberculosis, minimal in the first year of life, increases constantly and comparatively regularly from the first to the eighteenth year, reaches 96 per cent. at puberty, and later reaches practically 100 per cent. The frequency of a fatal termination diminishes gradually from 100 per cent. in the earliest period of life until at eighteen years it is but 29 per cent., then increases slowly during the third decade to 38 per cent., and then falls slowly and gradually as the age increases. The frequency of active, progressive tuberculosis up to the age of eighteen corresponds practically to the prevalence of the disease, but from eighteen it increases quickly and constantly, being about three-fourths at the age of thirty, from which it decreases, at first rapidly, afterwards gradually. The frequency of latent but active tuberculosis, slight in childhood, increases quickly to one-third at puberty, reaching two-fifths during the third decade, after which it slowly decreases to one-fourth at old age.

The frequency of healed tuberculosis, minimal before the eighteenth year, increases in the third decade to one-fourth, in the fourth decade to two-fifths, thence increasing regularly to three-fourths at the seventieth year. Thus disposition towards tuberculous changes of various kinds is distinctly highest in youth, diminishing at the time of puberty, increasing again towards the end of the third decade, thence decreasing gradually.

THE INHERITANCE OF TUBERCULOSIS AND TUBERCULOUS TENDENCIES.

Carriere (*Arch. de medicine experim.*, 1900, p. 782) gives the results of his experiments upon guinea-pigs in this connection. He injected into the animals experimented upon the poisons extracted from cultures of the tubercle bacillus, and he found that gestation was affected in this wise—that the number of embryos diminished, and that they died either in the fetal state or shortly after birth, or, if surviving, showed constitutional weaknesses. These were most marked if both parents were given the toxins. In case the mother alone was injected the results were more striking than when the father alone was injected. It was also found that the surviving descendants in these cases were much more susceptible to tuberculosis, experimentally inoculated, than healthy control animals; most marked if both parents had been treated with the toxins, least marked if the father alone had been treated.

REVIEW IN HYGIENE.

By Robert Reuling, M.D., Baltimore.

Experimental Studies on the Heredity of Tuberculosis. Dr. Friedrich Friedmann. *Zeitsch. für klin. Medicin*, Vol. XLIII, Nos. 1 and 2.

The theory that tuberculosis is directly transmissible from parent to offspring has numerous supporters, but the theory only counts on a few who believe in its occurrence with any great frequency. The theory of Koch, that the hereditary tendencies seen in tuberculosis are due to the inheritance of body cells whose powers to withstand tubercular infection are lessened, is the most widely accepted one. Baumgarten expounded the theory that the development of the disease in the offspring was due to a direct transmission of the bacilli to its tissues; in fact, he believes that later infection of the body is extremely unlikely: "Die Tuberculose ist eine ausschliesslich sich durch directe Vererbung fortpflanzende Kranheit, während die möglichkeit einer gelegentlichen infection postpartum in Folge der wirksamen Schutzvorrichtungen des Organismus nur wenig in Betracht kommt. Diese Uebertragung findet statt durch infection des befruchteten oder noch unbefruchteten Eies om der mütterlichen Seite oder vom Vater durch das Sperma."

That intrauterine tuberculosis may occur is proven by a number of instances of early and even advanced tubercular disease in the new-born.

It would certainly seem that the male parent played by far the most important part in transmitting the infection. The author mentions the following observation of Klebs and his own on two families, the members of which died of tuberculosis: "With remarkable regularity the tubercular male members, who were married to healthy women, begot tubercular children. In several instances the same woman who had tubercular children with her tubercular husband later had healthy children by a healthy man." Klebs believes that of tubercular mothers 40 per cent. of the children would be healthy, while if the disease existed in the father only 4 per cent. would remain free from infection: "Die Tuberculose des Vaters ist 10 mal gefährlicher für die Kinder als diejenige der mutter."

Tubercle bacilli have been demonstrated in the testicles and semen of tubercular men and animals without any evidence of uro-genital disease. Jani found in the healthy testicles of cases of phthisis, tubercle bacilli in five out of six cases; the prostate contained bacilli in four.

Friedmann's article gives a full description of his apparently successful experiments showing that tubercle bacilli are transmitted to the embryo by semen which contains bacilli, and that the tissue or blood of the mother apparently played no part in this

transmission of bacilli to the ovum. A short description of the nature of the author's experiments will no doubt be of interest to the reader.

Rabbits were the animals used. To insure conception the author believes it best to put the buck to the female within a few hours after she has given birth to young. Before the buck is allowed with the female the experimenter injects 2 or 3 c. c. of an emulsion of tubercle bacilli in sodium chloride solution into the vagina of the female. In the secretion of the vagina, examined one hour after the coitus, he found numerous spermatozoa and occasional tubercle bacilli.

The females were killed on the eighth day of pregnancy. The most satisfactory material was obtained on the sixth day of pregnancy. The uterus, with embryo intact, was removed, hardened, and cut into serial sections. The sections were stained by Ehrlich's method in anilin fuchsin water, and heated until bubbles appeared. After washing and decolorizing in acid alcohol, they were counter-stained with methylene-blue solution. At this stage no placenta or secondary membranes covering the ova are evident. In all the embryos thus examined the author was able to demonstrate the presence of tubercle bacilli amongst the cell-layers. The great majority of bacilli lay in the embryonal cell-layer and were intracellular, but some were found in the hollow space bordering on the zona pellucida. In one embryo a considerable collection (mass) of bacilli was found, which the author believes would rather go to show that the organism had multiplied, as it is very unlikely that such a mass could have entered the ovum originally. No other evidence, pointing to a multiplication of the bacilli in the embryos, was found. The uterus and vagina in none of the females showed evidence of tubercular disease, so that a transmission from the tissues of the female to the embryo is rather excluded. Just how the bacilli enter the ovum does not appear, nor is this so important. He is now carrying on the experiments to determine the further fate of the bacilli in the embryo, and the results of the examination of embryos at full term will be looked for with great interest.

* * *

Benzin Poisoning. Dorendorf. *Zeitsch. für klin. Med.*, Vol. XLIII, Nos. 1 and 2.

The author describes two cases of benzin poisoning, both patients working in rubber manufactories, and the symptoms presented were almost identical. Both were exposed to the fumes of benzin, which is used in the process of vulcanizing rubber.

The first case, a man, aged thirty-seven, had worked in a cable and rubber factory for eight months. The first symptoms noted were pains of a tearing character in the muscles, joints and limbs, especially in the right arm and leg. On admission to hospital he complained of constantly seeing fine fiery particles before his eyes when closed. Well-marked fibrillary tremor of hands and

tremor of tongue were noted. After improvement from treatment he returned to his work, but soon became worse—feeling of pressure in head, loss of memory, difficulty in speech, loss of appetite, a feeling of weight in the extremities, especially in the right arm and right leg, and intermittent severe pains, which the patient describes as in the bones, also a painful sensation of cold in the right hand and in the right leg. The sensation of cold about the right foot was so annoying that it caused the patient to lose much sleep. Measurements with the dyamometer showed a marked reduction in the grip of both hands. Most of the superficial nerves were sensitive to pressure, especially the right median, radial, ulnar, tibial, and peroneal. No muscular atrophy; no change in electric excitability of nerve or muscle. The patellar reflexes markedly exaggerated, the right more than the left. Besides the tremor described, nystagmus was noted on patient's readmission. No anomalies of sensation, nor in the function of special senses; ocular fundus normal. Marked dermographia over entire body, but especially marked on right side, where a well-marked facticious urticaria can be produced.

Blood exanination: Hemoglobin 85. The spectroscopic examination showed two well-marked absorption bands of oxyhemoglobin between Franenhofer's lines D and E.

The eryrthrocytes showed rouleaux formation; some showed marked pallor. In the plasma and in the body of leucocytes deep yellow, brown and black pigment was found; red cells 5,072,000, white 10,400. After several weeks' treatment—massage, electricity, hot baths and the iodides—the patient left the hospital much improved.

The second case resembles this one so closely in its clinical aspects that it will not be cited. Dorendorf visited the factory and studied the process used in manufacturing the rubber goods. The addition of sulphur to rubber makes it more elastic. When the excess of sulphur is driven off by heating in suitable chambers it is known as vulcanized rubber, but as the manufacturers found that a great many cases of poisoning from sulphur monoxide occurred, a mixture for vulcanizing is now generally used consisting of chloride of sulphur and benzin. The latter mixture was employed in the factory visited.

Animal experiments showed that chronic intoxication could be produced by exposing a guinea-pig to the fumes arising from the chlor-sulphur-benzin mixture. The animal showed marked dyspnea, weakness, and partial paralysis of hind legs, also marked tremor; but after placing it in the fresh air, recovery followed quite promptly. The animal was then exposed to the fumes intermittently for about three-quarters to one and one-quarter hours every day for ten days. On the fourteenth day the animal died of convulsions.

Autopsy, which was performed immediately after death, showed numerous ecchymoses; a strong odor of benzin was detected in the abdominal and pleural cavities. The spectro-

scopic examination of the blood showed the absorption bands of oxyhemoglobin. Almost every organ showed the presence of the dark blue reaction of free iron (hemosiderin) when a solution of potassium ferrocyanide was poured over them. The microscopic examination of the liver, kidney, spleen, heart muscle, and bone-marrow showed large amounts of the free-blood pigment. The examination of the spinal cord and brain showed well-marked degenerative changes when stained by the Nissl method. These changes and those seen in the blood are well shown in illustrations which accompany the article.

* * *

Report of the Italian Society for the Study of Malaria. Third Yearly Report Presented at the Society's Third General Meeting, March 23, 1901.

The object of this society is certainly a most worthy one, and its members will no doubt accomplish much to lessen the ravages of malaria throughout the world. It is only by eradicating malaria from certain parts of the earth that these can be made inhabitable, and if one considers how many pleasant countries, or parts thereof, are made practically uninhabitable by pernicious malarial fevers, which deprive the world of valuable products, the importance of the work is evident. The prophylaxis against malarial infection is of extreme importance to the whole civilized world, and no government having malarial regions in its own country or its dependencies can ignore the importance of taking part in such investigations. Only the most important results of the Italian Society's investigations will be referred to in this review. Its efforts were especially directed to studying the epidemiology, the pathology, the prophylaxis, and the therapy of malaria.

1. Where malaria exists one also finds mosquitoes (anopheles), but the reverse is not true. The claims of Ross, Grassi, Bignami, and Bastianelli that the culex mosquito plays no part in malarial infection is in direct opposition to the studies of Koch.

2. All stagnant water, more especially that containing the vegetation found in marshes, may be hatching-places for the larvae of the anopheles, as also are some lakes with constant water-levels. This is not true of the bodies of water that contain certain amounts of decomposing vegetable matter, salt or sulphur. The preconceived idea that water containing a certain amount of decomposing vegetable matter and a mixture of salt and fresh water are predisposing factors for malarial infection were definitely excluded by the investigators.

The rice fields with stagnant or running water or those with irrigation systems are always favorable localities for the development of the mosquito larvae.

3. The geographical distribution of the three principal varieties of malarial hematozoa is fairly constant in the different parts of the Italian continent. In general, the parasites of pernicious tertian fever is most frequently the cause of the fever. The para-

site of mild tertian fever is more frequently the etiological factor in the northern portion of Italy than in the south; that of the quartan fever is found far less frequently than the others, and is about evenly distributed throughout Italy.

4. The quartan, the mild tertian and severe tertian have each a definite epidemilogical cause peculiar to themselves. The quartan fever has fewer relapses and appears latest. The mild and severe tertian fevers have a similar, if not identical, course in Central and Southern Italy. In Northern Italy the mild tertian fever appears first, and its appearance is limited entirely to the spring months, and reaches its maximum before the severe tertian. The latter rightly deserves the name of estivo-autumnal, or August fever. The epidemics begin earlier in Northern Italy, and cease earlier than in the south, namely, in October, whereas in Central Italy the fever only assumes an epidemic character in the later summer months, and in some places it is at its height in October and November.

5. Through the acceptance of the new mosquito theory the study of the epidemiology of malaria has been so successfully carried out by this society.

6. Professor Celli, with Drs. Parrichi and Carducci, have continued their investigations in regard to malarial immunity, and the poisons produced by the parasite, especially the specific hemolysins. As they have failed to establish an artificial immunity by the use of the antitoxins or antilysins, they have been obliged for practical results to give much attention to the immunity obtained by antimalarial remedies which could be taken for a long period without producing any disturbance of the general health. They found that up to the appearance of this report the best results to insure immunity against malarial infection are obtained by the administration of euchinin. This result is confirmed by Professor Mattei and his colleagues, who carried on their investigations in the marshes of Pontinia and Tuscany.

7. Lomonaco and Parrichi have extended their investigations on the action of quinine. They report a curious phenomenon—that the blood of malarial cases possesses agglutinative powers. They hope to use this in the diagnosis of the latent forms of malaria.

8. Professor Celli and his colleagues have proven that a person may reside in the most malarial regions, living in the midst of marshes, hotbeds of the disease, and remain free from infection, provided he is protected from mosquitoes. The two physicians, Drs. Sambon and Low, sent by the British government to study malaria in Ostia, fully confirmed this statement. They lived and worked in the midst of a marsh known to be very malarial, and were protected from the bites of mosquitoes in a house the windows, etc., of which were covered by screens, so that no mosquitoes could enter. Neither one developed malaria.

9. Prof. G. Bastianelli sent from Sanit Spirito artificially-infected mosquitoes to Dr. Manson in London, and Manson was

able to produce malarial infections in a city entirely free of the disease.

* * *

ON THE VALUE OF DANYSZ MICROBE FOR DESTRUCTION OF THE RATS IN DRAINS. Menelas Sakorraphus. *Journal of Tropical Med.*, March 15, 1901.

That the destruction of rats is of extreme importance in preventing the spread of plague there can be no doubt. Numerous investigators have shown how very susceptible this animal is to infection by the plague bacillus and how these infections are carried on to man.

In the *Annales de l'Institut Pasteur*, April, 1900, Danysz states that rats die from the infection of a cocco-bacillus which he describes as presenting the appearance of the bacillus coli.

The Sanitary Commission of Greece, through its president, Mr. Kadisimichalis, had cultures of this coccus brought to Greece direct from the Pasteur Institute.

The following is a brief exposition of the results of Sakorraphus' experiments:

Having convinced himself that the cultures were still living, experiments were made according to Danysz's method.

For the first experiment ten rats caught in the drains of Athens were put into cages and fed with this culture mixed with bread and water and a little salt, while during the following days they were given bread and cheese. On the fifth day a rat died, and the body was left in the cage for thirty hours, but none of the other animals attempted to devour it. On dissecting the rat characteristic lesions were found in the spleen and intestines. The pathogenic microbe was isolated from the blood of the spleen cultured on gelatin. Two other rats fell ill, but recovered.

On the twentieth day, being convinced that all the animals were in good health, a second experiment was commenced. Two other rats were put into the same cage. Meantime, cultures were prepared and the rats separated into two cages, those in one cage being given stale cultures, and those in the other fresh cultures. Two animals died between the eighth and tenth days, and one was dissected with positive results. The other dead rat was left in a cage with all the other rats, but they did not devour the body. The survivors remained quite healthy.

Twenty days later the third experiment was made. One rat died, and notwithstanding the fact that the survivors were fasting, only the tail of the dead rat was eaten.

The virulence of the microbe is increased when the culture is isolated from the blood of an animal killed twenty-four hours subsequent to the ingestion of cultures. They cultured direct on gelatin the blood of a rat killed after that time. When the cultures had multiplied they attempted a fourth experiment, but obtained no results but the partial gnawing of one animal.

As the result of his experiments the author comes to the following conclusions:

1. That the microbe is not sufficiently virulent, at least as regards the rats of the drains in Athens.

2. Even supposing that the mortality be augmented, the means suggested for the destruction of rats in drains and other localities infested by them are not efficacious, seeing that the survivors do not devour the dead bodies which have been infected by the pathogenic microbe of Danysz.

PATHOLOGY AND BACTERIOLOGY.

By José L. Hirsh, M.D., Baltimore.

ON THE RELATIONS OF THE BONE MARROW TO THE LEUCOCYTE PRODUCTION AND LEUCOCYTOSIS. Robert Muir. *Jour. of Pathology and Bacteriology,* Vol. VII, No. 11.

The following investigations were undertaken by the author to determine in the first place what is the source of the leucocytes found in great excess in certain pathological conditions, and what changes may be found in the tissues as an evidence of this increased formation. The fundamental facts were well recognized, namely, that in various inflammatory and suppurative conditions leucocytes emigrate from the blood vessels in enormous numbers; that at the same time there is usually a well-marked leucocytosis in the blood, and that the leucocytes in question are nearly all of the finely granular variety with polymorphous nuclei.

Since Ehrlich's and Metchnikoff's first publications an enormous amount of work has been done regarding their functions as phagocytes or producers of antibacterial substances, but it is only recently that definite information has been brought forward regarding the mechanism of increased supply. The author gives Rubbert the credit of having been the first observer to draw attention to the disease of certain embryonic cells in the bone, and these changes, taken together with the minute histology of the cells concerned, present, he believes, a rational explanation both of the increased supply of leucocytes and of the leucocytosis which usually accompanies it. In his recent experiments, which the present article reports, the changes in the marrow are chiefly considered; for, although the spleen and lymphoid tissues generally were examined, no change of importance was observed.

Normal Red Marrow.—A brief review of the structure of the normal marrow is given here so that the reader may better understand the pathological changes which follow.

The fundamental plan of structure may be said to be a very wide capillary meshwork separated by masses of leucocytes, which are supported by an exceedingly scanty and delicate stroma. This type is well seen in birds, where the wide marrow capillaries are lined by

layers of young and proliferating red corpuscles (erythroblasts). The leucocytes are clearly extravascular, the erythroblasts intravascular. In most instances in mammals on careful examination a demarcation between the marrow cells and the erythroblasts has become partly broken, so that the two classes of cells are intermingled, both being in contact with ordinary red-blood corpuscles. In places there are areas composed exclusively of cells of the leucocyte class, portions of true leucoblastic tissue.

The cells of the leucocyte class may be divided into three chief classes, according to the character of their protoplasm: (a) Cells with finely granular protoplasm constitute the great majority, these granules corresponding in staining reaction with the finely granular leucocytes of the blood. (b) Cells with coarse eosinophile granules; these form a considerably smaller group. (c) Hyaline or non-granular cells, which usually occur in a small but varying number. Of the three classes mentioned the finely granular divide most actively. This increase in number of these finely granular cells the author found to be very striking in cases where the number of leucocytes in the general circulation was increased. He also found that these finely granular cells showed evidence of active multiplication, as they showed mitotic figures. He comes to the following conclusions as to their relationship:

"The narrow cells are of larger size than the finely granular leucocytes of the blood, and they possess a single round, oval or slightly indented nucleus. By mitotic division, however, smaller cells are produced, and amongst these are transition forms. The changes in the development of the finely granular leucocytes are the following:

"(a) The nucleus, at first round or oval, becomes indented ('horseshoe-shaped'), lobulated and ultimately distinctly polymorphous, the change being accompanied by an increase or rather condensation of the chromatin. (b) Along with these changes in the nucleus, ameboid activity is required. (c) Whilst the reaction of the granules to stains may be said to be the same in quality in the two classes of cells, it is not absolutely so in degree, the granules of the narrow cells being rather less oxyphile than those of the leucocytes. (d) The cytoplasm of the marrow has a faint though more distinct basophile reaction, and this gradually diminishes along with the changes mentioned above, so that ultimately in the leucocytes of the blood the cytoplasm is practically uncolored by a solution of the basic stain."

From the histological character mentioned, from the presence of numerous mitoses in the marrow cells, Muir agrees with Ehrlich in his opinion that the chief, if not the sole, source of the finely granular leucocyte is the finely granular myelocyte.

Mitotic division also occurs in the eosinophile marrow cells, and corresponding changes follow, the ultimate product being the eosinophile leucocytes as met with in the blood. In addition to the cells enumerated, there are also present the giant cells of the marrow—large cells with hyaline protoplasm and highly convoluted

nucleus. The author's experiments fully confirm the observations of Lowit, Goldscheider and Jacob that in leucocytosis the additional leucocytes are derived from the marrow. For the production of a leucocytosis the author employed venous or intraperitoneal injections of peptone and pure cultures of staphylococcus pyogenes aureus possessing a somewhat low degree of virulence. In the instances of intraperitoneal injections he found a rapid emigration of granular cells, chiefly, though not exclusively, the amophile variety from the blood. Phagocytosis was well marked, and at the end of three hours a large proportion of staphylococci were found within the amophile leucocytes. A rapid digestion of the organisms follows, so that within twenty-four hours the great proportion of cocci have quite disappeared. Degenerative changes in the amophiles were present on the day after injection, and became more marked two days later. Nearly all the leucocytes which have emigrated from the vessels undergo degeneration, and Muir considers that comparatively few return to the blood. Preceding the increase of leucocytes a decrease in the normal leucocyte count in the blood was found. This leucopenia has been found by other workers (Goldscheider and Jacob). The leucopenia, however, is not well marked for three or four hours, and the leucocytosis is usually at its maximum about twenty-four hours afterwards. He believes the initial leucopenia is due, at least in great part, to the emigration of leucocytes and to their accumulation in the vessels of the peritoneum.

* * *

Heredity of Chronic Nephritis. Pel. *Zeitschrift f. klin. Med.*, Vol. XXX, p. 127.

Pel describes a family in which during three generations eighteen cases of chronic nephritis were observed. Nine of these cases were males and nine females. The males inherited the disease from the father, the females from the mother. It is possible that in all these cases there was a diminished resistance of the kidneys to all injurious conditions. One of the cases, a child, contracted an acute parenchymatous nephritis following a very mild attack of varicella, thereby showing a marked susceptibility.

* * *

An Analysis of Thirty-two Cases of Congenital Heart Disease. John Lovett Morse. *Archives of Pediatrics*, October, 1901.

As to the classification of these cases, the diagnosis of patent foramen ovale was made in six cases, and a defect in the ventricular septum seemed most probable in six others; in seventeen the chief lesion was thought to be at or about the pulmonary orifice; in five of these patency of the ductus arteriosus seemed probable; in three not even a guess as to the situation of the lesion seemed justified. Prematurity seems to be a more important factor in the etiology of patent foramen ovale than of other conditions.

The chief points brought out in the study of these cases are:

1. The considerable proportion of cases in which the cardiac

lesion was discovered during a routine physical examination, there having been no symptoms referable to the heart.

2. The length of time which the condition may exist without the development of any symptoms, several cases having shown no symptoms at three and four years of age.

3. The comparative mildness of the symptoms in cases of patent foramen ovale.

4. The recovery from lesions which from physical examination were apparently the same as those in cases which resulted in chronic invalidism and death.

* * *

ETIOLOGY OF ACUTE ARTICULAR RHEUMATISM. Sanger. *Wiener klin. Woch.*, No. 20, 1901.

Sanger found upon autopsy streptococci in the various organs of five cases of acute articular rheumatism, and one of rheumatic chorea. In another case of chorea accompanied by inflammation of the elbow, preceded by a follicular tonsilitis, the staphylococcus pyogenes aureus was present. In 1898 the author wrote of the many clinical and anatomical similarities between acute articular rheumatism and staphylo-streptomycoses.

Gradually it is being recognized clinically that there are a number of obscure and ambigious diseases which belong to the borderland between acute articular rheumatism and cryptogenic pyemia. The discovery of a specific organism has been announced several times, but as we know that pneumonia and endocarditis can be caused by several varieties of bacteria, so in acute articular rheumatism no single variety can be held as its only cause.

* * *

AN AMYLOID TUMOR WITH METASTASES. W. Burk. *Centralblatt für Path.*, Aug., 1901.

The primary tumor was situated in the thyroid gland, and included the left lobe, the isthmus, and a large part of the right lobe. The tumor was about the size of a fist, of yellowish-white color, and of cartilagenous consistency. Microscopically the tumor consisted of homogeneous masses of amyloid material. These masses were surrounded by masses of small round cells. Inside the tumors the normal structure of the thyroid had disappeared. Metastases of similar structure were found in the cervical lymph glands, the bronchial and sub-maxillary glands, in the lungs, and in both pleura. Besides there was a solitary metastasis in the left cerebellum.

A similar growth—amyloid tumor with metastases—has not been hitherto described.

* * *

TERATOMA OF THE THORAX (FOETUS IN FETU) REMOVED BY OPERATION. G. Torok. *Zeitschrift f. Heilkd.*, Bd. 21.

From the back of a four-and-one-half-year girl a tumor which was under the tenth rib was removed. At the operation a sac was

encountered, part of which could not be removed, as it was bound too firmly to the aorta and vena cava. In this sac there was a teratoma, which contained small and large intestine, hair and teeth.

The child died later of pneumonia.

At the autopsy, besides the lobular pneumonia, bones and cartilages were found in the teratoma.

In conclusion, the author discusses the origin of these tumors.

* * *

A Rapid Method for Permanent Preservation of Frozen Sections. James H. Wright. *Centralblatt für path. Anat.*, Aug. 1, 1901.

The chief point about the method, which is a modification of that described by Cullen, is the fixation of the section on the slide by means of celloidin, and then staining and cleaning the specimens. The fixation on the slide keeps the section smooth, and is, therefore, easily handled. The details of the method are as follows:

1. Harden the piece in 10 per cent. formalin solution. If time presses, a small piece 5 mm. thick may be boiled in formalin for two to three minutes. Zenker's fluid may also be used for hardening, but then the tissue must be thoroughly washed in water in order to remove the hardening agent, otherwise it will be impossible to freeze the tissue.

2. The tissue must be cut into thin sections. This is readily done if the specimen is sufficiently frozen.

3. Allow the specimen to float from water on to the slide, and flatten it out with a teasing needle, then press it down firmly with a piece of filter-paper previously moistened with 95 per cent. alcohol.

4. Cover the section with absolute alcohol for a few seconds and pour off. Repeat this two or three times.

5. Pour over the section a thin solution of celloidin (dissolved in equal parts of absolute alcohol and ether) and rapidly pour off. The celloidin solution must be very thin, so that only a thin film is formed on the slide.

6. Cover the section with 95 per cent. alcohol and immediately immerse the slide in water for a few seconds.

7. Stain with hematoxylin (or any desired stain), dehydrate with alcohol, clear with any clearing agent, and mount in balsam.

Tubercle bacilli in tissue can readily be stained by merely warming the specimen covered with fuchsin solution.

If the tissue has been boiled in formalin solution it is possible to obtain specimens for microscopic diagnosis in a few minutes.

* * *

The Icterus of the New-Born, and Especially Infectious Icterus. Lesage and Demelin. *Revue de Med.*, Vol. XVIII.

In exceptional cases icterus neonatorum is caused by obliteration or congenital defects of the biliary ducts. The children die

of cholemia, except those cases in which only the cystic duct is obliterated. Besides these cases, icterus neonatorum may be divided into two groups—the ordinary, almost physiological, and the infectious. The former attacks about 80 per cent. of the newborn, and only in about 29 per cent. is it distributed over the entire body. In the urine there are no biliary acids or pigments. They are probably of hematogenous origin.

Of pathological importance are the cases of infectious icterus. The entrance of infection is either the intestinal or the umbilical cord. The intestinal infectious cases are caused by a virulent bacterium coli. It may arise endemically, and is very contagious. The authors describe two such endemics. Sporadic cases also occur. Besides the icterus, diarrhea and fever are present, and often a characteristic cyanosis whose origin can be found neither in the functional disturbance of the heart nor lungs. During these cyanotic attacks the skin assumes a peculiar bronze coloring. Hemaglobinuria and hematuria are absent. Death preceded by marked depression is the frequent termination.

Post-mortem biliary imbitition of the tissues are found. The liver is usually normal, somewhat pale. Small hemorrhages in the region of the vessels are observed. Occasionally the liver is found soft and friable, as in acute yellow atrophy, the hemorrhages numerous, and the vessels filled. The liver cells are overladen with bile pigment, the protoplasm cloudy. The spleen shows the characteristic changes of an infection. The kidneys show only microscopical hemorrhages. The intestines show a desquamative enteritis. The bacterium coli is found in almost pure culture.

This infectious icterus is closely related to the "maladie bronzée hematurique" of Larogenue and Parrott, and to the "afebrile cyanosis, with icterus and hemoglobinuria," of Winckle. The latter is a more severe form of infection associated with hemorrhagic diathesis.

The puerperal infectious icterus is a streptococcus sepsis of the remaining umbilical cord. The infected mother is often the source of infection. The course is usually fatal in two to three days. Post-mortem, the septic virus is found in all localities; the liver shows fatty degeneration.

* * *

THE ACTIONS OF BACTERICIDAL SERUMS. Wisser and Wochsberg. *Münch. med. Wochenschrift*, April 23, 1901. Review, *American Medicine*.

The authors state that experience with the antitoxin serum of diphtheria has shown that an excess of antitoxin does no harm, but in the case of the bactericidal serums the interesting fact has been developed that an excess is at times injurious. They have demonstrated this by experiment in vitro. They determined the amount of immune serum necessary to kill a given quantity of bouillon culture of a bacterium. When less than this amount

of serum was used the bactericidal effect was less or entirely absent; when more was employed it was also less, and when a very large quantity of the serum was used no bactericidal effect was demonstrable. This paradoxic result is only explicable on Ehrlich's and Morgenroth's theory of immunity. In this theory it will be remembered two bodies are necessary for a bactericidal effect to be produced—an intermediate body (Zwichen Korper) which is specific, and a complement, a non-specific body contained in every serum. The complement, which is a ferment-like substance, is limited in amount. The intermediate body has two bonds of affinity. With the one it attaches itself to the bacterium; with the other, to the complement. If there is an excess of the intermediate bodies, those unattached to the bacteria take up the complement and keep it away from the micro-organism.

SURGERY.

Under the Supervision of Hugh H. Young, M.D., Baltimore.
Assisted by Joseph Hume, M.D.

A Report of Four Cases of Fat Necrosis in Connection with Gallstones. By W. A. Evans, M.D. *Jour. Amer. Med. Assoc.*, Nov. 2, 1901.

For some time the relationship between gallstones and fat necrosis has been noted, but only lately, since the work of Halsted and Opie, has enough stress been laid on the prominent part that gallstones play in the etiology of fat necrosis. It is highly probable, from a review of the literature, that fat necrosis is more frequently present than is generally thought, and that there is a great necessity for some more efficient means of diagnosis between gallstones with necrosis and without it. Two anatomical facts explain why pancreatitis and necrosis are not immeasurably more frequently associated with gallstone disease—namely, the common duct is nearly three times as large as the cystic, and stones escaping from the latter are very unlikely to become impacted in the common duct. In about 53 per cent. of all cases there is a secondary pancreatic duct, not liable from its position to be subjected to pressure effects, and capable of draining the pancreas. A stone located at or about the diverticulum of Vater will not only dam back the pancreatic fluid, but will also cause a regurgitation of bile into the pancreas. This regurgitation depends somewhat on the pressure in the pancreas, liver and gall-bladder, and is assisted probably by any accessory pancreatic ducts; so with an impacted stone in the above-mentioned locality it cannot be long before the pancreas becomes filled with bile. In addition, then, is needed, to produce fat necrosis, some other factor—arterio-sclerosis, spasmodic ischemia, bacterial infection, etc., all of

which contributory causes are supported by various authorities.

The distribution of the lesions is suggestive—generally it is limited to the upper abdominal segment, frequently it extends over the entire abdominal cavity, and sometimes has been found even in the bone-marrow.

Diagnosis has to be made between gallstones with or without fat necrosis, and also between acute intestinal obstruction. From a study of the cases the writer has seen he gives the following aids to diagnosis:

Temperature.—Not indicative, but often with gallstones there is enough temperature to suggest that something else is present besides the stones.

Pain.—Usually both as to origin and quality suggests something in addition to gallstones. Tenderness is often present, and apparently has a tendency to shift its position.

Nervous Unrest.—This is quite marked when stones are associated with fat necrosis. The patients are restless, toss about, and have the sense of some impending danger.

Lividity.—Often marked, even though the patient is breathing quietly. Halsted and Opie call attention to a peculiar local turgescence and lividity in the epigastrium when necrosis is present. In fat necrosis the pain is generally located in other regions besides that of the gall-bladder; it also has a tendency to shift, and the patient is unable to definitely locate it. Often there is no pain, but only general uneasiness and discomfort in the epigastrium, radiating to other regions. The pulse is usually more rapid in necrosis than in simple gallstones, except it be the pulse of shock, which is not long continued. Between fat necrosis and acute intestinal obstruction the diagnosis is exceedingly difficult. In obstruction vomiting is more prominent, more frequent and often fecal; peristalsis can sometimes be made out, constipation is more severe, pain and tenderness more localized, and shock greater, except in those cases of necrosis with hemorrhagic pancreatitis.

* * *

Wounds of the Thoracic Duct Occurring in the Neck. Report of two cases, with a *résumé* of seventeen cases, by D. P. Allen, M.D., and C. E. Briggs, M.D. *Amer. Med.*, Sept. 21, 1901.

The writers have made a careful and interesting study of wounds of the thoracic duct, and offer some valuable suggestions as to methods of procedure in dissections of the neck, and the operative treatment advisable if the large lymphatics are wounded. In operations in this region, where there is a probability of wounding the duct, they suggest that about three hours before the operation the patient be given four to six ounces of cream. They advise this, since, in the intervals of digestion, lymph so closely resembles serum that its presence is often not recognized, and wounds of the lymphatics pass unnoticed until

some days after the operation. But by giving cream a few hours before operating the absorption of fat is induced, and chyle is so characteristic in appearance that its presence in a wound would be immediately noticed and search made for the injured lymphatic. As a result of their studies they conclude:

1. The increasing frequency of extensive dissections of the neck makes it desirable to consider means of avoiding injury to the thoracic duct.

2. It is desirable that if wounds of the thoracic ducts or its branches occur, they should be recognized at the time of the operation. If there is a probability of wounding the duct, four to six ounces of cream should be given to the patient about three hours before operating. This is especially desirable in secondary operations undertaken for the purpose of locating point of injury.

3. That suture of the duct with fine silk or catgut be accomplished when possible; that all small discharging lymph radicles be ligated; that the ligating and clamping of lymphatic vessels of considerable size be avoided, unless the integrity of the thoracic duct itself has been demonstrated; that where suture of the duct or large radicles is impossible, gauze packing, firmly and accurately applied, be used; that the head and neck be kept at rest, the use of morphine to a considerable degree being recommended if necessary.

4. That until the repair of the duct is thought to be complete nutrition should be sustained on albuminous material, with possibly a small amount of carbo-hydrates, but with an absolute exclusion of fats.

* * *

An Improved Method of Treating High-Seated Cancers of the Rectum. By R. F. Weir, M.D. *Jour. Amer. Med. Assoc.*, Sept. 28, 1901.

After an experience of over twenty cases operated on by the Kraske method, Weir is of the opinion that it is often unsatisfactory on account of the depth of the wound, troublesome hemorrhage, difficulty of uniting the divided gut and drawing down the upper portion of the intestine. He offers a new method which he has used in three cases, two of which recovered satisfactorily.

Maunsell in 1892 proposed the abdominal route for the removal of high-seated carcinoma of the rectum, advising that a piece of tape be passed through the gut, the ends carried out of the rectum, and thus the tumor pulled out and the gut everted. In practice this method was difficult, and in many cases impossible, owing to the size of the neoplasm. The writer modifies Maunsell's method in this way: After abdominal section the peritoneum is divided and freely detached, so that the bowel and contents of the sacral curve are liberated behind to the tip of the coccyx and in front to the edge of the prostate. Two pieces of tape an inch apart are now tied around the gut about three inches from the anus. The bowel is divided between the tapes and the

upper portion raised out of the abdominal wound. An assistant now draws the lower portion through the anus, the tape is untied, and, through this everted gut, forceps are passed which pull down the upper portion of bowel and bring it through the anus. The ends are stitched together with the knots within the lumen, and the anastomosed gut drawn up into the pelvic cavity. A tube placed just in front of the coccyx provides for drainage.

Slight rectal stenosis follows this operation, but it is easily overcome by using rectal bougies for a month or so. The operative field is rendered comparatively bloodless if early in the operation the superior hemorrhoidal artery is tied. In the opinion of the author this modification of Maunsell's method presents many advantages over either the Kraske or Maunsell's original plan for the removal of high-seated cancers of the rectum.

* * *

The Surgery of Pulmonary Abscess, Gangrene and Bronchiectases Following Pneumonia. By D. E. Eisendrath, M.D. *Phila. Med. Jour.*, Nov. 9, 1901.

The development of modern pulmonary surgery dates from about 1873, when Mosler made parenchymatous injections of antiseptics in an endeavor to cure pulmonary abscess. Bull, Quincke, Tuffeir, Schmidt, Glück and others, by animal experimentation and operative procedures on man, have shown the safety of pneumectomies and the great advantages to be derived from them. In ninety-three cases of pulmonary lesions following pneumonia the following results were attained by operation: In twenty-five cases of acute simple abscess, twenty-four recovered, one improved; in twenty-eight cases of acute gangrene, twenty recovered, two improved, six died; in fourteen cases of chronic simple abscess with bronchiectasis, six recovered, three improved, five died; in twenty-six cases of chronic putrid abscess, thirteen recovered, four improved, and nine died. The most important factor in pneumotomy is whether adhesions are present or not. There is no definite way of deciding this point, but statistics show that they are present in about 90 per cent. of all cases. Many methods have been used to produce adhesions artificially. Quincke resects a rib and places zinc-chloride gauze in the intercostal space. Roux proposed in 1892 the so-called "suture" method, using a round needle to stitch the visceral and parietal surfaces together. Again, gauze tampons have been used to wall off the abscess area, allowing forty-eight hours for adhesions to form. Pneumo-thorax is one of the chief dangers of the operation. The lung collapse can be avoided by using the Fell-O'Dwyer apparatus or the Parham-Matas method. The writer concludes that the most valuable points in the diagnosis of pulmonary abscess or gangrene following pneumonia are the sudden expectoration, after an apparent crisis, of pure non-odorous pus in the simple abscess cases or of fetid pus in the grangrenous variety. In the chronic cases the usual history is a previous pneu-

monia followed by the expectoration of large quantities of pus, with exacerbations of fever accompanied by emaciation, weakness, etc. The physical signs are often unreliable; large, moist metallic rales, purulent fetid pus, presence of elastic fibers in the gangrenous conditions, more often than in simple abscess, are among the most reliable diagnostic signs. The *x*-rays have not proved of much value except to confirm the physical signs.

The prognosis of abscess and gangrene following pneumonia is very unfavorable under medical treatment. Surgical procedures give the best results, and the operative statistics of the last five years show a considerable improvement over those of the previous decade.

* * *

THE MORTALITY OF APPENDICITIS. By John B. Deaver, M.D., and George C. Ross, M.D. *Jour. Amer. Med. Assoc.*, Oct. 5, 1901.

In cases not subjected to surgical treatment by far the largest factor is septic peritonitis. This arises in one of the several ways: 1. Transmigration of micro-organisms from an ulcerative or interstitial appendicitis without rupture of the appendix; 2. Gangrenous appendicitis, or rupture of the appendix by ulceration, without adhesions localizing the septic area; and 3. Internal rupture of a peri-appendiceal abscess. Another quite common termination is an obstruction of the bowel, either by adhesions of the appendix to neighboring small intestines, or by the bands of adhesions thrown out in nature's efforts to localize a septic area. These factors are responsible for the greater number of deaths in non-operative cases. Other complications frequently seen are the deposit of septic material in distant parts of the body, as liver, lungs, brain, heart, etc. Rarely an abscess ruptures into the bladder, causing a fatal cystitis or pyelitis.

Of the four main localities of appendiceal abscesses, that situated to the outside of the cecum gives the most favorable prognosis. The next favorable variety is that situated anterior to the cecum and directly under the abdominal wall. Next in order are collections of pus in the pelvis. Most dangerous of all are local collections of pus, one to the median-line side, whose walls are made up principally by small intestines. Post-cecal collections offer a serious problem to the operator. If pus is not localized there is no hope of recovery unless by operation in first hour or two, when only serum is infected. The appendix should be removed except under very exceptional circumstances, thus rendering less likely the possibilities which are active factors in appendiceal mortality—fecal fistula, an undiscovered secondary collection of pus, subsequent attacks and danger of subsequent necrosis, and obstruction of the bowel.

In 118 cases operated upon during acute stage and followed by recovery, in sixty-one pus was present. Of this number the appendix was perforated and gangrenous in two cases; two cases

had perforation without gangrene; in twenty-five cases infection occurred by migration of micro-organisms through the walls of the appendix, and in thirteen cases record fails to show condition of appendix. In the remaining fifty-seven cases the inflammation was confined to the appendix. In six cases fecal fistula occurred, four of which closed spontaneously, two requiring subsequent operation. There were fifty-six cases operated upon in first attacks, and in remaining sixty-two cases there was an average of four attacks. Of eleven cases of acute appendicitis not operated upon, three died, five left with a mass in the right iliac fossa, and in three the lesions were apparently confined to the appendix. One attack predisposes to another attack, and barring rare cases of obliterating appendicitis, each attack renders operation more difficult on account of adhesions and their tendency to denseness and contraction, thus detracting from a favorable prognosis.

The character and severity of attacks is of great moment and must be duly considered in the question of appendiceal mortality. It may be laid down as an axiom that the danger of death in acute appendicitis increases in direct ratio to the area of peritoneum involved in the septic process.

Society Reports.

THE CLINICAL SOCIETY OF MARYLAND.

MEETING HELD OCTOBER 4, 1901.

The regular annual meeting of the Society was called to order by the president, Dr. W. J. Todd.

After the reading of the minutes and receiving the reports of the treasurer and other officers, it was decided, upon motion of the secretary, to suspend the regular order of business and to receive and consider a report from a special committee of the Medical and Chirurgical Faculty of Maryland.

Dr. H. O. Reik, as chairman of the special committee on the organization of section meetings of the Faculty, reviewed briefly the action taken by the Faculty on this question, and submitted the plan of organization as formulated by the committee, as follows:

1. The following sections, as provided for, shall be formed: a. Clinical Medicine and Surgery; b. Gynecology and Obstetrics; c. Neurology and Psychiatry; d. Laryngology and Rhinology; e. Ophthalmology and Otology.

2. Notices shall be sent to all members of the Faculty informing them of the dates of meetings to be held for the purpose of organizing these sections, and requesting each member to attend and take part in the organization of the section or sections in which he is most interested.

3. Each section shall elect its own officers, to consist of a chairman, a secretary, and, if necessary, an executive committee. The sections may also make any laws or regulations for their own government that do not conflict with the constitution and by-laws of the Faculty. There shall be no section dues, the annual dues of the Faculty covering all expenses of section membership.

4. Any member of the Faculty is priviliged to attend any or all of the section meetings, but the secretary of any section will only send cards to such members as have registered with him a request therefor and have thus indicated their intention of affiliating with such particular section.

5. There shall be a meeting of some one of these sections every Friday evening at the hall of the Medical and Chirurgical Faculty, unless otherwise ordered, at 8.30 P. M., from October to May, inclusive, and the order of rotation shall be: a. Section on Clinical Medicine and Surgery on the first and third Fridays of each month; b. Sections on Gynecology and Obstetrics and on Neurology and Psychiatry on the second Friday of each alternate month; c. Sections on Laryngology and Rhinology and on Ophthalmology and Otology on the fourth Friday of each alternate month.

Thus, in the month of October, the section on Clinical Medicine and Surgery will meet on the first and third Fridays, the section on Gynecology and Obstetrics on the second Friday, and the section on Laryngology and Rhinology on the fourth Friday, while in the month of November the two last-named sections will hold no meetings, but the second and fourth Fridays will be taken by the Neurological and Ophthalmological sections, respectively.

After explaining these plans of the Faculty, Dr. Reik submitted the following resolutions for the consideration of the Clinical Society and moved their adoption, viz.:

Resolved, That the Clinical Society of Maryland shall abandon its present organization, request all of its members who are now members of the Medical and Chirurgical Faculty of Maryland to participate in the formation of sections of the Faculty, particularly the section on Clinical Medicine and Surgery, and advise its members who are not now members of said Faculty to permit the secretary to present their names as applicants for membership in the Medical and Chirurgical Faculty.

Resolved, That the present officers of the Clinical Society of Maryland be re-elected, to serve for such length of time as may be required to settle up the business affairs of said Society, and that the executive committee, acting together with the finance committee and the treasurer, be authorized to pay all outstanding obligations of the Society, dispose of all its properties that may be salable, and donate the net proceeds to the Medical and Chirurgical Faculty of Maryland.

The motion to adopt the resolutions was seconded by Dr. W. S. Gardner, and the subject was then opened to general discussion. The subject was thoroughly discussed from various points of view by Drs. Ashby, Branham, Taneyhill, Winslow, Ruhrah, Gale, Osler, Pennington, O'Donovan, Bond, Gardner, and Fulton, and, upon motion of Dr. Taneyhill, further consideration of the subject was deferred until the next regular meeting of the Society, when a special committee, appointed to ascertain what proportion of those members of the Society who were not members of the Faculty would join the latter in the event of the Clinical Society's disbanding, would report, and the corresponding secretary was instructed to issue to all members printed copies of the resolutions, together with the notice that final action thereon would be taken at the next meeting.

MEETING HELD OCTOBER 18, 1901.

THE meeting was called to order by the president, Dr. W. J. Todd. After the reading and approval of the minutes of the last meeting the president announced the resolutions contained therein to be the special order of business, and called upon the secretary to read them and briefly explain their meaning and object. When announcing that the subject was open for discussion the president stated that he would consider these resolutions as equivalent to a constitutional amendment, and would require for their adoption a two-thirds majority of all the votes cast.

Dr. Randolph Winslow then moved to lay the resolutions on the table. This was seconded by Dr. Craighill, but the motion was defeated by a large majority. A general discussion of the subject was then resumed, Drs. Winslow, Kintzing, Blake, and Craighill opposing the adoption of the resolutions as presented, and Drs. Osler, Woods, Taneyhill, Bond, Brinton, and Reik favoring their adoption.

In response to the call for the previous question, the Chair requested a written ballot, and appointed Drs. Jacobs, O'Donovan, and Fulton to act as tellers. The count of the ballots showed 51 votes cast, of which 43 were in the affirmative and 8 in the negative, and the president then declared the resolutions adopted.

After an announcement by the secretary that the Faculty committee would at once call the necessary meetings for organization of the proposed sections, and that the probable date for organizing the section on Medicine and Surgery would be Friday, November 1, 1901, the meeting adjourned.

H. O. REIK, Secretary.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD OCTOBER 21, 1901.

IN the absence of the president the meeting was called to order by Dr. Hurd.

Dr. McCrae: "Exhibition of Medical Cases."

Case 1. *Mental Disturbance Following Typhoid Fever.*—This case was considered of interest on account of the rarity of the condition. The patient was admitted on the 14th of December with fairly severe symptoms of typhoid fever, which ran the ordinary course, and the patient was convalescent. Early in the disease he showed marked mental symptoms, being at times delirious and other times having delusions. Later he showed symptoms of melancholia. Within the last twenty-four hours his mental symptoms had changed materially for the better. It was difficult to classify this case in accordance with the usually accepted classification, it being neither one of typical insanity nor of melancholia. The prognosis in this case was considered good.

Case 2. *Adherent Pericardium.*—Patient was a boy aged nineteen, who had come in complaining of shortness of breath, and with the history that he had been treated in another hospital last April for rheumatism. On inspection there was some precordial bulging, which suggested that the

illness was of longer duration than was explained by his history. The heart was slightly enlarged and presented some murmurs which varied in character from day to day, but which were, on the whole, suggestive of myocarditis. There was a slight systolic retraction about the third or fourth interspace, with no retraction behind, but with slight bulging in the precordial area. The patient's condition had not improved under treatment, and this resistance to all treatment in connection with the few symptoms present was taken to indicate the probable existence of an adherent pericardium.

Dr. MacCallum: "Exhibition of Pathological Specimens—Yellow Atrophy of the Liver, with Compensatory Hypertrophy."

The patient, a boy, entered the hospital in September with the history of having been admitted once before with erysipelas of the leg and of having been discharged well. At the last admission he came in with jaundice, and during much of his time in the hospital was in a state of muttering delirium. He passed very little urine, of a dark color, much stained with bile, and containing casts and albumin. The liver dullness was decreased in extent. Death occurred after a hemorrhage from the intestines. At autopsy the abdomen was found much distended, and the peritoneum contained a large quantity of deeply bile-stained fluid. The organs showed chronic passive congestion, and the liver a condition of acute yellow atrophy, which had gone through the acute stage and been followed by compensatory hypertrophy that is not often recognized. The liver was smaller than normal, and looked at first like the liver that has undergone senile atrophy. In the right lobe, however, was a large mass, dark green in color, and of a lobular appearance, the periphery of the lobules being of a lighter shade. Sections showed that the greenish mass presented a more nearly normal appearance than any of the other portions of the liver, the liver cells elsewhere being practically entirely destroyed, and throughout the whole structure there was a network of new connective tissue, with relatively few capillaries. Growing in from the peripheral portions of the lobules were a number of ducts resembling gall ducts as seen in chronic cirrhosis, and there was atrophy of the cells proceeding from the periphery inwards.

Dr. MacCallum compared the appearances to the condition described by Marchand in his article on yellow atrophy of the liver, and considered the reproduction of liver tissue as possibly derived from one of the following sources: a union of the degenerated liver cells, the growing in of the cells from the portal spaces, or from preserved portions of the liver that have remained practically intact. He thought the third method would best explain the production of such masses as were seen in this case. The cells were in appearance much like the normal liver cells, but were arranged in disorder, sometimes three or four cells appearing abreast, and anastomosis being much more free than normal. Many of the cells also had multiple nuclei. He thought the mass was probably to be considered as a new growth or hyperplasia of liver substance arising from an attempt to compensate for the great amount of atrophy that had taken place.

Dr. Yates: "Exhibition of Pathological Specimens—A Case of Anchylostoma Intestinalis."

The specimens were obtained from an autopsy at Bayview upon a sailor who presented nothing in his past history to show the source of the infection, except that he had returned from a cruise in the tropical regions. Six months before his admission to the asylum he first began to have dysentery, and his condition became progressively worse, the diarrhea continuing and marked anemia resulting. Before death his red-blood corpuscles were reduced to 800,000, and the hemaglobin to 11 per cent., the eosinophiles being a little over 3 per cent.

Autopsy showed an effusion of light yellowish fluid in the cerebro-spinal cavities, and all the tissues were edematous. In the stomach was a moderate mucous discharge, but the membranes were very pale, and it was impossible to make out any congestion. In the duodenum, four or five inches from the pylorus, the small worms began to appear, and became more numerous as the examination progressed down the intestinal tract, until below the middle of the jejunum the contents of the bowel became intensely hemorrhagic and the parasites numerous. They were found down to within 6 or 8 cm. of the ilio-cecal valve. The eggs were found everywhere in the small intestine in great profusion.

Dr. Thayer, in discussion, remarked that this was the first case seen in Baltimore, and was to be considered of great importance because of certain allied parasites, which have given reason to believe that such diseases exist here more frequently than has been suspected, and because such diseases will probably be seen in this country more frequently in the future through our more intimate relations with the tropical Eastern countries. He referred to the discovery by Dr. Strong, while a fourth-year student at the Hopkins Medical School, of an allied species of worm, the Strongyloides intestinalis, and described the difference between them. For practical purposes of diagnosis it should be remembered that in cases of anchylostoma intestinalis the eggs are laid and are passed in the stools, whereas in Strongyloides intestinalis the eggs are hatched in the intestine and passed as active larvae, the eggs being very rarely found in the stools. The importance of this diagnosis lies in the fact that anchylostoma is a curable condition, the patients responding promptly to treatment by male fern, whereas this drug has little or no effect upon the Strongyloides. H. O. R.

MEETING HELD NOVEMBER 4, 1901.

THE meeting was called to order by Dr. Hurd.

Dr. Gilchrist exhibited a patient showing a condition of indurated scrofulous erythema. This disease is one of the skin lesions of tuberculosis whose true nature has only lately been recognized. The patient was a young girl of nineteen years, with a chronic lesion on the left leg, presenting somewhat the appearance of a specific ulcer. The patch was 5 or 6 cm. in diameter, of a dull reddish color, very much indurated, and presented two or three punched-out ulcerated areas. There was a family history of tuberculosis, but none in the patient, although she was anemic and much run-down. A similar lesion of the other leg had existed about a year ago, and responded readily to treatment.

Dr. Gilchrist referred briefly to the other tuberculous skin lesions, in some of which the bacillus has been found, and advocated a change in the

present nomenclature. He thought they might all be called tuberculosis of the skin, and given different names according to the clinical pictures in the different types.

Dr. Thayer related the history of an unusual case of malaria recently under treatment in the Hospital. The patient was a young woman of eighteen, admitted early in September, with nothing important in her previous or family history except that in the spring and fall of 1900 she had had chills and fever. For five days prior to admission she had had irregular chills. The spleen was not palpable, the blood showed a subnormal number of white corpuscles, the Widal test for typhoid was negative, and no malarial parasites were found. On the fourth day after admission the temperature fell to normal and remained there for five days, when there occurred a slight rise—to 99°—and this was maintained for the next four days. On the 22d of September there was a chill, followed by fever, which continued for more than twelve hours, and from this time until the 14th of October the temperature ranged between 98.5 and 103.5, the rise and fall being rather irregular. Although the blood had been constantly examined with the greatest care, nothing was found until October 14, when the typical estivo-autumnal form of the parasite was discovered. Under treatment by quinine the temperature promptly returned to normal, and a complete recovery followed.

The particular points of interest in connection with the case were, first, the continuous character of the temperature; second, the remarkable scarcity of parasites in the peripheral circulation, and third, the absence of enlarged spleen. In regard to the first point, he remarked that not more than half a dozen such temperature charts had been collected in the Hopkins during the past ten years, and said that the explanation was to be found in the fact that the paroxysms in malaria are associated definitely with sporulation of groups of parasites. In the tertian and quartan fevers this sporulating process is pretty regularly spaced, while in the estivo-autumnal form there may be an overlapping of the periods of development of different groups, and thus a more or less constant fever is produced.

The absence of parasites from the peripheral circulation for such a prolonged period is a rare occurrence, but he considered it well to recognize the fact that it does occasionally occur. In the quartan fever the parasites are found at all stages in the peripheral blood and in the spleen. In the tertian type the parasites are found with much greater frequency in the blood of the spleen than in the peripheral circulation. While the young forms are found nearly as frequently in the peripheral as in the splenic blood, the full-grown and segmenting forms are found mostly in the spleen. In the estivo-autumnal fever the full-grown forms are almost never found in the peripheral circulation, as the segmenting and sporulating takes place in the internal organs. Here, then, we have a form of malaria in which the small hyaline bodies only are found in the peripheral circulation at all times, and in examining specimens of fresh blood these may be easily overlooked. In such a case the chances of discovering the hyaline bodies would be much improved by the study of stained dried specimens.

The spleen was only palpable in this case towards the end of the patient's stay in the Hospital, but there had been some tenderness in the splenic region, and Dr. Thayer believed the absence of enlargement was probably due to a thickened capsule, the result of previous malarial attacks.

Dr. McCrae exhibited three patients showing some of the nervous manifestations of pernicious anemia. Out of fifty cases of pernicious anemia seen in the Hospital, about twenty have shown nervous manifestations of one kind or another. At one end of the series the condition was that of simple sensory disturbance, while at the other end he found cases of complete paraplegia.

The first patient exhibited was a woman of thirty-eight years, who had probably had anemia for less than a year. She was an example of the minor manifestations of nervous symptoms, complaining only of numbness and tingling.

Case 2 was an elderly man showing a condition of sensory disturbance, together with a marked spastic condition. He complained of pain about the hands and feet, a curious feeling of the hands being very thick, and, as he walked, his gait was somewhat shuffling.

The third case was that of a man whose condition had been regarded as a purely nervous one before his admission to the Hospital, but there was a possibility that his anemia antedated the onset of nervous symptoms. His reflexes were gone, he had much difficulty in walking, and there was persistent tingling and pain.

Regarding the pathologic findings in such cases, Dr. McCrae stated that they practically all show involvement of the posterior columns of the cord, and a few show involvement of the lateral columns as well. The cervical region usually suffers more than others, and the process is less marked as investigation proceeds down the cord. H. O. R.

Book Reviews.

A Treatise on Appendicitis. By George Ryerson Fowler, M.D. Second edition, enlarged and revised. Pp. 235. Philadelphia: J. B. Lippincott & Co.

As an exposition of the author's personal experience, labors and opinions this second edition is a decided success. The book is presented in better form and with better and much more abundant illustrations than the similar works of Deaver and Mynter. The scope of the work is very similar to that of Deaver, but as a study of what other men think, and how the surgical world feels on many of the still unsettled questions, neither of these approach the treatise of Mynter.

For the undergraduate student it is most satisfactory, as it presents a clear, thorough exposition of the subject in dogmatic, positive style, and does not bewilder him with the multiplex variant views which are held by the representative surgeons of the world, nor dampen his enthusiasm by an insight into the many difficulties and unsuccessful issues in this apparently simple disease. The anatomy of the appendix and adjacent structures is beautifully portrayed. The pathology, while far from classic, is fairly comprehensibly treated and well illustrated. The bacteriology is principally a dissertation upon the bacillus coli communis, and the de-

tailed description of cultural examinations made from only ten cases seems hardly of sufficient value to warrant the space which is given to it, especially in view of the abundant and much more exhaustive researches which are to be found in the literature.

We agree thoroughly with Mynter that Fowler's classifications—acute, subacute, chronic, relapsing and recurrent appendicitis—is unnecessary and unjustified, the subacute being simply a form of the acute, and the relapsing and recurrent being merely chronic appendicitis. The classifications of perforating peritonitis and infectious peritonitis seem inaccurate.

Under the heading of differential diagnosis is to be found a very good presentation of the subject, each disease being presented in a systematic résumé, comparing the findings with those present in peritonitis, viz., history, pain, vomiting, tenderness, muscular tension, tumor, impairment of function and fever. These classifications will certainly prove of very great value to the student.

The author represents the most radical surgical views on the subject, believing in operative treatment first, last and at all time. In regard to the treatment of general fibrinous peritonitis, he disposes of Finney's method of scrubbing the intestines by simply stating that it should not be used. The other various methods which have been proposed are treated with silence. His own method, however, which he calls the postural treatment, is detailed at length. It consists in the elevation of the head of the bed so as to cause all the abdominal fluids to gravitate into the pelvis, where they are collected in large glass drainage tubes and evacuated by aspiration every few hours. The method appears to be worthy of trial in a certain variety of cases. Although the author gives no statistics, he says that his results have been greatly improved by the use of this method.

The author does not endorse Richardson's practice of waiting for the firm encapsulation of pus in fulminant cases. The author's technique in appendicitis is very thoroughly and beautifully illustrated, and is generally excellent, but we are somewhat surprised by his use of sponges wet with 1-1000 sublimate solution as a covering for the intestines. His so-called intermuscular method, while very ingenious, seems unnecessarily complicated. If authors would spend less time in devising operations which require no incisions and more time in approximating broad, strong muscular surfaces with reliable sutures, surgery would be much simpler, and the literature would be relieved of much unnecessary writing. Y.

GORHAM'S BACTERIOLOGY. A Laboratory Course in Bacteriology. For the use of Medical, Agricultural, and Industrial Students. By Frederic P. Gorham, A.M., Professor of Biology, Brown University; Bacteriologist to the Health Department, Providence, R. I. 12mo volume of 198 pages, with 97 illustrations. Cloth, $1.25 net. Philadelphia and London: W. B. Saunders & Co.; Baltimore: Medical & Standard Book Co. 1901.

This work will be found very useful for beginners in bacteriology. As its title indicates, it is strictly a laboratory guide, and is not meant to

supplant the more standard works on the subject. By following the directions closely the student will find no difficulty in familiarizing himself with bacteriological technique. J. L. H.

Diseases of the Digestive Organs in Infancy and Childhood, with Chapters on the Diet and General Management of Children, and Massage in Pediatrics. By Louis Starr, M.D., late Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Consulting Pediatrist to the Maternity Hospital, Philadelphia, etc. Third edition, rewritten and enlarged. Illustrated. Price $3 net. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street. 1901.

Important additions have been made to the revised edition of this work corresponding to the advances in pediatrics since the former edition. Especial stress is laid upon infantile feeding and hygienic measures. Formulae for the proper feeding of infants are given in detail, as well as general directions for the preparation of foods in health and disease. The etiology, pathology, and treatment of the diseases of the digestive organs are considered in a clear and concise manner, chief stress, however, being laid upon the clinical manifestation of disease. The sections on simple atrophy, scurvy, lithemia, and appendicitis are entirely rewritten.

The work is well printed—a matter of no small moment to the busy practitioner—and contains a number of illustrations. Useful formulae are scattered throughout the text. J. L. H.

Heisler's Embryology. A Text-Book of Embryology. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Second edition, thoroughly revised. Octavo volume of 405 pages, handsomely illustrated. Cloth, $2.50 net. Philadelphia and London: W. B. Saunders & Co.; Baltimore: Medical & Standard Book Co. 1901.

The rapid appearance of the second edition of Heisler's Text-Book is in itself an indication of the success which the work merits. While full enough to be intelligible for students of medicine, it is without that minuteness of detail which characterizes those larger treatises, and which serve so often only to confuse and discourage the beginner. The chapter treating of the deciduae and the placenta has been rewritten.

The general arrangement of the book is to be highly recommended. Instead of following the development of the germ-layers from bone to bone, from day to day, the changes occurring in each individual organ from its beginning to its end are described in separate chapters, so making each chapter complete in itself.

The illustrations, which are numerous and accurate, serve to render the text more readily understood.

The author has presented us a book well adapted for use in our medical colleges. J. L. H.

MARYLAND MEDICAL JOURNAL.

JOHN S FULTON, M.D., *Editor.*

HORACE M. SIMMONS, M D., *Manager.*

Associate Editors:

THOMAS R. BROWN, M.D. HUGH H YOUNG, M.D. ROBERT REULING, M.D.

BALTIMORE, DECEMBER, 1901.

THE PROFESSION AND THE LAWMAKERS.

THE general assembly of Maryland will convene in January, but it has not yet appeared that the medical profession of the State will have any concern in its proceedings. At the session of 1900 the Medical and Chirurgical Faculty presented, through its committee on legislation, an amended practice act. Soon afterward two opposing bills were offered, one in each house, possessing identical features, intended apparently to subvert all the hard-won advances in medical legislation. These bills so alarmed the profession that interest was concentrated upon their defeat rather than upon the passage of the measure offered by the Faculty. These two bills had a great advantage over the Faculty bill in the fact that they were alike, word for word, and being considered simultaneously in both houses, might become law by the mere formality of crossing the lobby. When it became apparent that the Faculty bill had slumbered too long to make the trip through the upper house, both the opposing bills died, for they were but bogey bills and had fulfilled their bugaboo destiny.

There is no denying that these Quaker guns diverted our attention from the genuine opposition, and that we did not engage the enemy at all. The strength of our opponents was never uncovered, and our next effort will be made in equal ignorance upon this important point.

In these pages we attempted at the time to point out certain weaknesses in the inception of our enterprise. The Mackie bill (our measure) undertook to satisfy all the wishes of the general practitioners, of the Examining Board, of the schools, and of the specialists. This too comprehensive plan challenged all of our enemies at once, and in a general engagement we were very likely to be beaten. We missed a cardinal point of tactics when we thus invited our enemies to concentrate their forces. By engaging them in detail we should have conquered certainly some of them, and possibly most of them, in a campaign of three months. As it turned out, we barely held the ground which Michael won for us in 1892.

We were represented at Annapolis by gentlemen who, while capable enough, had other interests, being connected with institutions asking for State aid. In the crush of petitioners at the short biennial session the man having a single commission finds it difficult enough to get fair consideration. Having two quests, he must abandon one of them, or else camp on the spot for the entire session. The committee should have been devoted singly to the expressed will of the profession, and should have been reinforced at call by the personal countenance and influence of the profession.

The committee did ask at critical junctures for such support, but there was no response.

It may be that the experiences of 1900 have left in the profession no aggressive spirit for the session of 1902. If we have been worsted so decisively as that, our case is a bad one, for we shall surely have to resist attack of one sort or another during the coming session.

Hostilities will be resumed, if not by us, on our ground, and it does not appear that we are in a good state of defense. Our weakness consists wholly and entirely in a lack of organization, in a lamentable indifference to the dangers which surround us. The defeat which we have endured will seem as nothing when compared with the injury we shall suffer when the predatory horde discovers that the medical profession of this State has but a handful of fighting men.

When the rank and file of the profession responds to an appeal only by pointing to past reverses it is no wonder that leaders are discouraged. The sources of failure are in the rank and file. We have always been strong enough to win, and have never lost for any other reason than that we did not put forth our strength.

If our program for the winter is to stay at home and rest, there are excellent prospects that the war will be brought to our own doors, when we may find ourselves up and doing, united at last by the force of impending calamity.

It is time for us to choose whether we shall stay at home and deserve whatever we shall get, or go out and get whatever we shall deserve.

TUBERCULOSIS EXPERIMENTS.

The doubt which Robert Koch, at the recent Congress of Tuberculosis, cast upon the doctrine of intercommunicability of tuberculosis between animals and man recommitted this important question for further study by clinical and experimental investigators.

The inquiry is legitimate enough, and should, if possible, include observations upon the transmissibility of bovine tuberculosis to man. But the shock of Koch's guarded utterance so disturbed the mental balance of the scientific world that an almost hysterical demand arose for the crucial test of inoculating bovine tuberculosis upon human beings, as if the question could be settled in no other way. Now, the belief that bovine tuberculosis is a cause of human tuberculosis had up to that time possessed the popular mind, and influenced the government of the people to such an extent that the expressed doubt of this great man had its effect far beyond the confines of medical science, and immediately there sprang up a more or less noble army of martyrs who wanted to be inoculated with bovine tuberculosis. Fancy the cattle being so agitated concerning their possible danger from human tuberculosis, and the live-stock boards importuned by calves aspiring to martyrdom!

Success will surely fall to all the inoculated candidates, for both positive and negative results may be counted successful; and whether the subject escapes unhurt, or imperils or loses life, he may be quite sure

that the world offers for such service no greater or less reward to a man than to a calf.

The evidence that some unchronicled men and babies have gone out with tuberculosis of bovine derivation is no stronger than that which has sufficed for the hanging of some innocent men and for the escape of many guilty ones, but the evidence furnishes, nevertheless, full justification of such restrictive measures as have come into favor, and it is from precisely the viewpoint of practical utility that the new experiments are of least value. Proof or disproof would clear the air a little, but we should in either event go forward, and not backward, protecting both men and animals against tuberculosis.

Among those who believe in the intercommunicability of human and bovine tuberculosis there is substantial agreement that the virulence of each bacillus is markedly diminished toward the other host, so that a long series of inoculations might do no more than confirm this view, leaving the main question in *statu quo.*

Of course, it may chance that an early volunteer will draw the prize and give us the proof. An importunate martyr who perhaps merits this luck is a nurse who has been inoculated by a Brooklyn physician. Only newspaper accounts of the experiment have yet been published, and in these so much is made of the doctor's ability to cure the disease that we seem likely to be deprived of all the profit of the experiment by his skill in therapeutics. It is a pity that he cannot be punished for making the inoculation, but since this cannot be done, he should at least be restrained by injunction from treating the case if tuberculosis develops. In the interest of science, and to fitly crown her act of devotion, that nurse needs nothing so much as another doctor, one who knows tuberculosis, and has grave doubts of his ability to cure it.

POST-VACCINATION TETANUS.

In Camden, N. J., several children have recently died of tetanus, having been attacked three or four weeks after vaccination. The contention of the public health officials, that the infection was in no instance introduced with the virus or by the vaccinator, is undoubtedly true, but the essential fact stands undisputed, that the vaccine sore was, in eleven instances, the portal of infection. This deplorable demonstration did not happen where it was particularly deserved, for public vaccination as practiced in this country doubtless pays to every infection a just tribute as large as is everywhere and inevitably laid upon bad surgery. A State which, for its own safety, offers to the citizen a definite immunity through vaccination, assumes an obligation covering every negotiable contingency of vaccinia. If the results are injurious to the citizen, it is a feeble defense to allege contributory negligence on the part of the citizen, when the post-operative care of the case has been left wholly to the citizen.

The extraordinary ilustration afforded by the Camden experience should lead to a profound reform in public vaccination throughout the world.

Medical Items.

Dr. Albert Leary Gihon, retired medical director of the United States Navy, died at Roosevelt Hospital November 18 of paralysis.

Professor Wilhelm Waldeyer, the distinguished anatomist of the University of Berlin, was entertained at a reception by Dr. William Osler on October 22.

The Minnesota State Board of Health has made a regulation forbidding the payment of money to laborers infected with a contagious disease during the period of their detention on account of disease.

Among medical men honored by Yale at the recent bicentennial celebration were Dr. William Osler of Baltimore, Dr. John Shaw Billings of New York, Dr. Wilhelm Waldeyer of Berlin, and Dr. David White Finley of Aberdeen, all of whom received the degree of LL.D.

The experimental inoculation of a nurse with bovine tuberculosis, by Dr. Barney of Brooklyn, has not up-to-date (Nov. 27) shown signs of success. Koch failed in 19 converse experiments, so that in order to get a good per cent. of chances for a "take" Dr. Barney should have inoculated 400 nurses.

Hospitals for infectious disease have of late been bones of contention elsewhere as well as in Baltimore. The Springfield (Ill.) Board of Health has been enjoined from building such a hospital. At Des Moines, Iowa, the difficulties concerning location have been adjusted, and building has been begun. There has been quite a row in Philadelphia about the smallpox hospital.

Dr. Albert Leary Gihon, medical director, United States Navy, retired, died in New York on November 17 of apoplexy. Dr. Gihon was born in Philadelphia on September 28, 1833, and graduated in medicine at Philadelphia College of Medicine and Surgery in 1853. He entered the Navy in 1855, became medical inspector in 1872, and medical director in 1879. He was retired in 1895. He was an accomplished writer and an excellent speaker. With him probably perishes the scheme of a worthy monument to Benjamin Rush.

An interesting controversy has been going on at Towson concerning water pollution. There has been the usual crop of typhoid fever at Towson among those who drink water from the numerous polluted wells. The sanitary officer, Mr. Lee Bosley, commenced proceedings against Dr. R. C. Massenberg, who disposes of his kitchen and bathroom waste by running it into the well which was formerly the family water supply. The State Board of Health having been called upon to investigate the matter, caused 240 pounds of salt and ten gallons of coal oil to be put into Dr. Massenberg's well, the chemical characteristics of the neighboring wells having been previously determined. A week later the coal oil was quite obtrusively present in the neighboring wells, but the salt had not arrived. Dr. Massenberg has entered a countersuit against the sanitary officer for $10,000 damages for the alleged slanderous statement that Dr. Massenberg's well is the cause of a case of typhoid fever in the neighboring family of Rev. Mr. Straughn.

The new plan of section organization now being inaugurated by the Medical and Chirurgical Faculty of Maryland promises to be even more successful than was anticipated by its most enthusiastic advocates. Naturally, a large majority of the city members asked for registration in the section on Medicine and Surgery, but registration in the several specialties has been far beyond expectations. For instance, while the old Gynecological and Obstetrical Society had a membership of only about thirty, the new section on this branch of medicine will start off with an enrollment of seventy, and the other special sections show the same relative gain. The explanation of this probably lies in the fact that though all physicians were invited to attend the meetings of the special societies, they did not feel comfortable about going where they could not "pay their way," and many of them could not afford to belong to all the various societies, or even to as many as they were really interested in. One of the important gains, too, is that the reader of a paper before any section will be assured of a larger audience, and possibly a more appreciative one, and a greater number of physicians will profit from the results of his labor.

The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland was held on November 19 at Elkton by invitation of the Cecil County Medical Association. The meeting was opened with a short speech of welcome by Dr. J. V. Wallace of Chesapeake City, president of the Cecil County Medical Association, to which Dr. J. McPherson Scott responded, and called the Faculty to order. Dr. Randolph Winslow read a "Report of Cases of Gunshot and Stab Wounds of the Stomach;" discussed by Drs. Blake and Hill. Dr. Howard Brattan of Elkton read a paper on "Typhoid Fever;" discussion by Drs. Osler, Craighill, Gichner, Birnie, Urban Smith, Hardcastle, Stokes, Thayer, and Robin. Dr. W. A. B. Sellman read a paper on the "Existence of Double Vagina, Without There Being Two Uteri, or a Bifid Uterus;" discussed by Dr. Blake. Dr. H. Barton Jacobs read a paper on "The Treatment of Consumption in Local Sanatoria;" discussed by Drs. Osler and Gichner. Dr. J. B. R. Purnell of Snow Hill read a paper on "Thermometric Investigation," after which the Faculty adjourned for luncheon. Luncheon was provided by the Cecil County Medical Association, and was served in the Opera House. The afternoon session was called to order at 2.30, when Dr. George J. Preston addressed the Faculty on "The Care of the Insane in Maryland;" discussed by Dr. Hill. Dr. Wm. R. Stokes read a paper on "A Case of Sympus, with Exhibition of a Specimen." Dr. McNeer exhibited another sample of the same monstrosity, and made remarks on its causation. Dr. John N. Mackenzie read a paper on "Post-Nasal Obstruction;" discussed by Drs. Woods, Bernstein, and Merrick. Drs. Henry F. Cassidy and Francis Carey Bayne presented a joint paper on "The Differentiation of the Five Genera of North American Mosquitoes, with Special Reference to the Anopheles;" discussed by Dr. Robin of Delaware. Dr. Hiram Woods read a paper on "Infective Otitis Media Without Its Usual Subjective Symptoms;" discussed by Drs. Reik and Bernstein. Dr. John S. Fulton read a paper on "Hydrocyanic-Acid Gas in Public Health Work;" discussed by Dr. Robin of Delaware. Papers by Drs. Frank Martin, A. D. McConachie, John C. Hemmeter, and Edward J. Bernstein were read by title. The Faculty then adjourned.

To the Editor of the Maryland Medical Journal:

Dear Sir—Will you kindly publish this letter in the JOURNAL, and thus allow us to explain to your readers the appearance of our names in an advertisement recently published in the daily papers of this city. At the meeting of the Medical and Chirurgical Faculty of Maryland held at Elkton on the 19th inst. Dr. Reik explained the matter in detail, but inasmuch as the attendance there formed a comparatively small part of the membership of that society, and as we wish the entire profession to understand our position, we take this means of reaching the larger number.

The publication referred to is a full-page advertisement (in the *Baltimore American* of October 20, and the *Evening News* of October 21) of Ross' drug stores, containing what purported to be "interviews with leading physicians and prominent business men." As soon as possible after seeing the paper we all denied the authenticity of the alleged interviews with us. Mr. Ross at once apologized for the publication, acknowledged that the "interviews" were faked, but claimed to be personally innocent, pleading that he had been deceived by an advertising agent, and gave a signed statement thoroughly exonerating us of any connection with the advertisement. His statements were accepted in good faith, as was also his promise to suppress other similar advertisements that had been contracted for, and we were very much surprised to learn within the last few days that some pamphlets, with these "interviews" in a slightly changed form, had been allowed to get into circulation. As a result of this we have now taken steps to make absolutely sure that all existing printed matter of this character shall be destroyed, and that the advertiser will not again use our names in such a way.

We sincerely hope that none of our professional brethren have thought that these interviews were authentic. Furthermore, we trust that the pharmacists will understand the situation and believe that we would not lend aid to any one of their number at the expense of the others.

With many thanks for the privilege of speaking through your columns, we are,

Very sincerely and fraternally yours,

H. O. REIK,
N. R. GORTER,
CHARLES O'DONOVAN.

MAR 4 1903

COUNTWAY LIBRARY
HC 44CW

NB581